

The Construction Economy Outlook

A background image showing four construction workers in safety gear (hard hats and high-visibility vests) walking away from the camera on a construction site. In the background, there is a large crane and the skeletal structure of a building under construction. The scene is lit with a bright, low-angle light, creating a lens flare effect. The entire image has a blue color overlay.

Fall Webcast

Nov 8th, 2023

2:00 p.m. ET to 3:30 p.m. ET



In Partnership with



Paul Hart

VP, Product Marketing
Building Product Manufacturers



Fall 2023 Economic Webcast

Agenda

- 1 Kermit Baker, AIA
- 2 Ken Simonson, AGC
- 3 Claire Stubblefield, ConstructConnect
- 4 Alex Carrick, ConstructConnect
- 5 Michael Guckes, ConstructConnect

- Submit questions throughout today's webcast through the question feature available in the on-screen panel.
- An on-demand version will be provided via email within 72 hours of the event.
- The recording of this webcast will also be posted on our Economic Resources page.
- Quarterly Construction Starts and Put in Place Forecasts available:

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A photograph of four construction workers in safety gear (hard hats and high-visibility vests) walking away from the camera on a construction site. The scene is overlaid with a blue gradient and a large white arrow pointing upwards and to the right. The background shows a large industrial building under construction with a crane.

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LEARNING OBJECTIVES

- Understand how global and domestic economic conditions can impact architects & designers, contractors, engineers, construction managers, and building product manufacturers.
- Understand changes in inputs to construction, focusing on potential labor market challenges and material cost pressures that may arise from broader economic pressures.
- Understand business risks and opportunities based on forecasts for all segments of U.S. construction activity.
- Determine, based on economic presentations and discussions, which building categories and geographies should expect growth—and which should prepare for downturns.

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Kermit Baker

Ph.D., Hon. AIA
Chief Economist,
American Institute of Architects



Overview

- **Though economic indicators continue to be generally positive, threats to outlook are increasing.**
- **Weakness at architecture firms points to a 2024 construction slowdown.**
- **Rising long-term rates and weak demand make commercial construction the most vulnerable nonresidential sector at present.**

Major monthly leading economic indicators remain mixed, but in general are improving

	Oct. '22	Oct. '23	Change since Oct. 2022
Consumer prices (change from year-ago)*	8.2%	3.7%	-4.5 pct. points
3-mo. T-bills	4.06%	5.33%	1.3 pct. points
30-yr fixed rate mortgage	7.08%	7.79%	0.71 pct. points
Consumer sentiment (index: Q1 1966=100)	59.9	63.8	3.9 points
Housing starts (SAAR)*	1.46M	1.36M	-6.8%
Retail sales (\$B, seasonally adj.)*	\$679.4	\$704.9	+3.8%
Nonfarm payrolls (change in number, 000s)	324	150	+2,917

*Data for Sep 22 and 23

Sources: Bureau of Labor Statistics; Conference Board; University of Michigan; U.S. Census Bureau

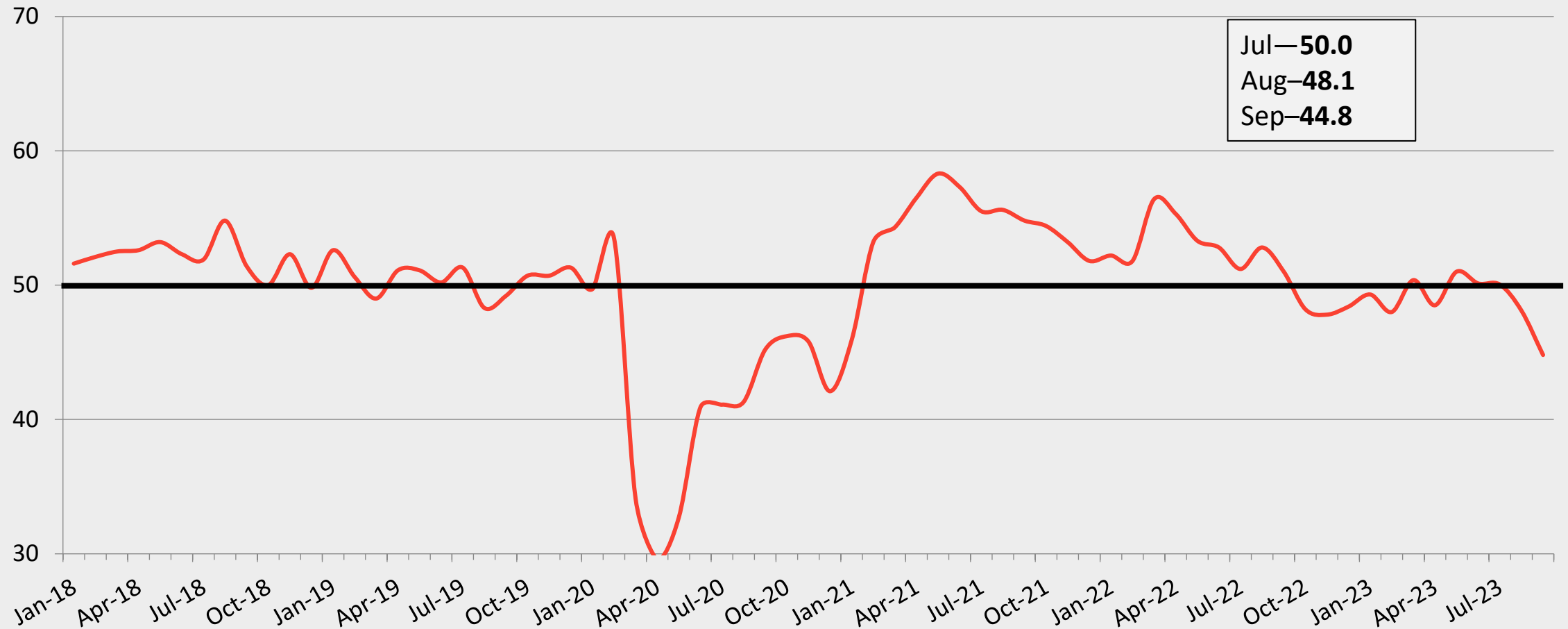
While overall economic outlook has improved, several dark clouds remain on the horizon

- Regional banking concerns persists, leading to tighter lending standards.
- Economic fallout from likely future federal budget showdowns; return of student loan repayments; ongoing labor issues.
- Potential reacceleration of inflation (rising oil prices; higher labor costs)
- Ongoing geopolitical tensions (Ukraine/Russia; China/Taiwan; Israel/Arab countries).
- The meltdown of the Chinese economy may be felt in the U.S.



Architecture firm billings have been weak since Q-3 2022, but took a tumble in September

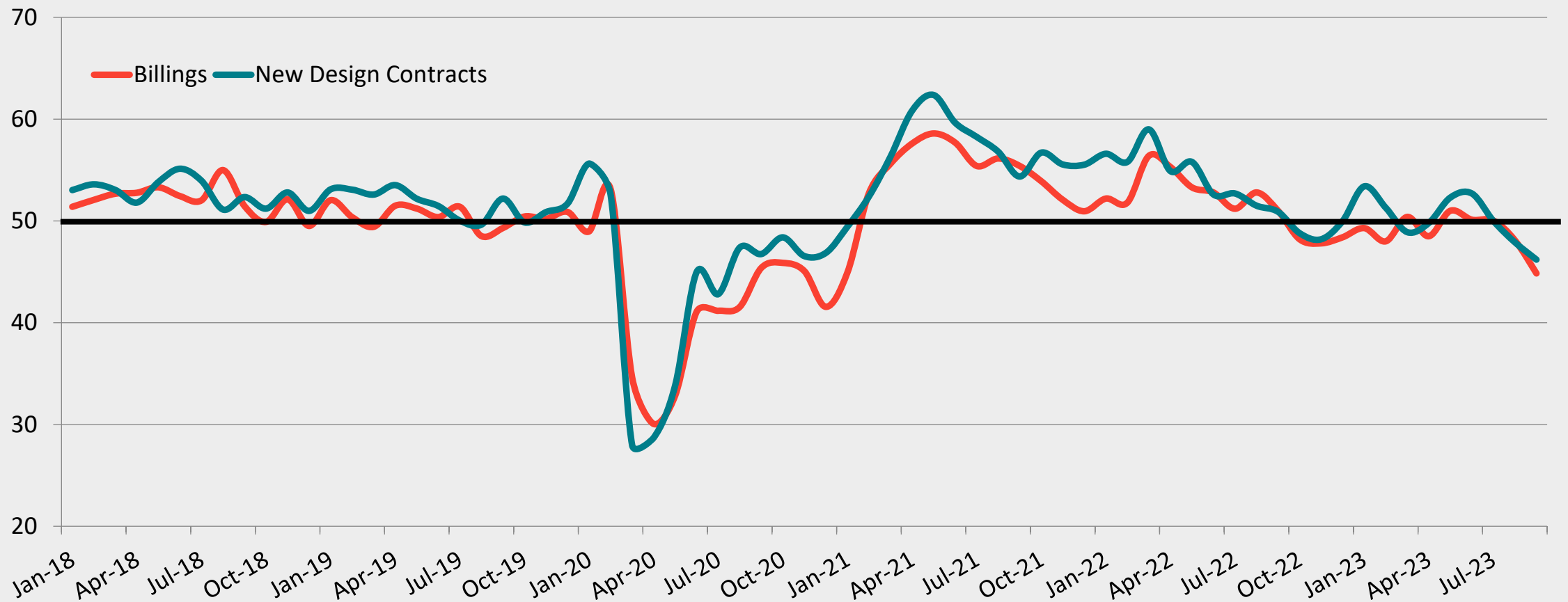
Diffusion index: 50 = no change from previous month, seasonally adjusted



Source: AIA/Deltek Architecture Billings Index

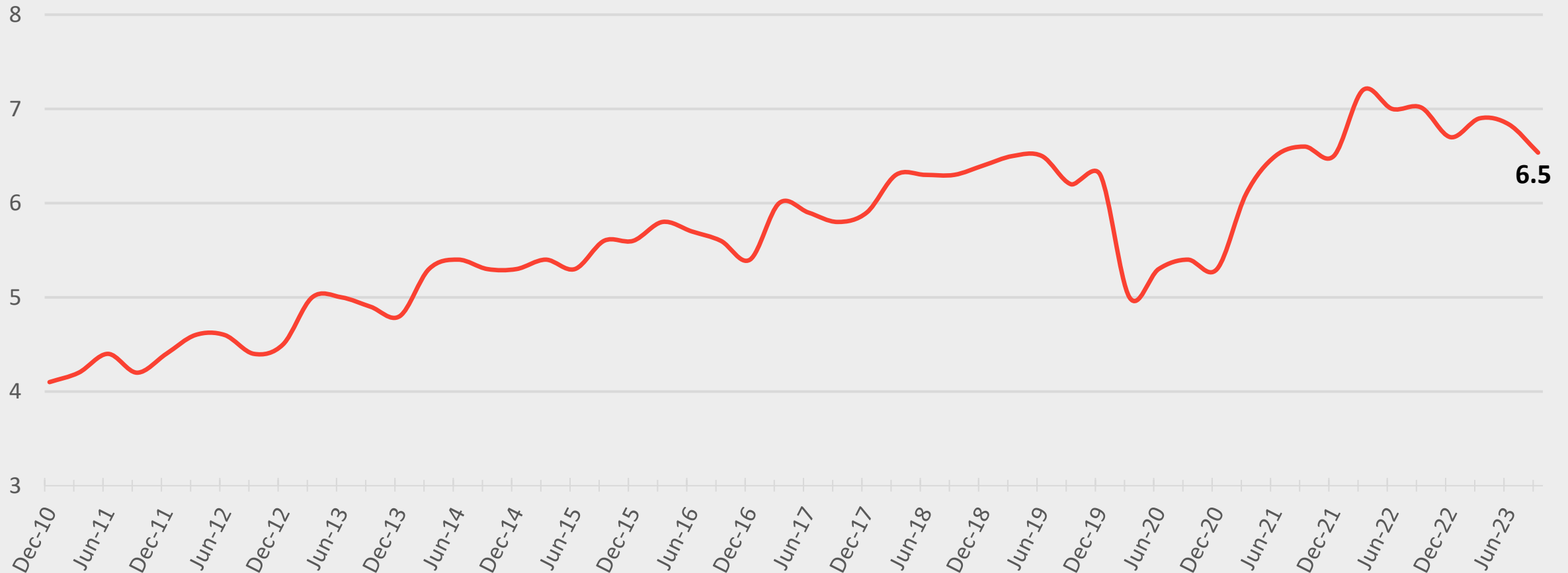
New design contracts have also moved down, suggesting workloads are unlikely to rebound anytime soon

Diffusion index: 50 = no change from previous month, seasonally adjusted



Architecture firm backlogs – averaging around 6.5 months – have been easing somewhat recently

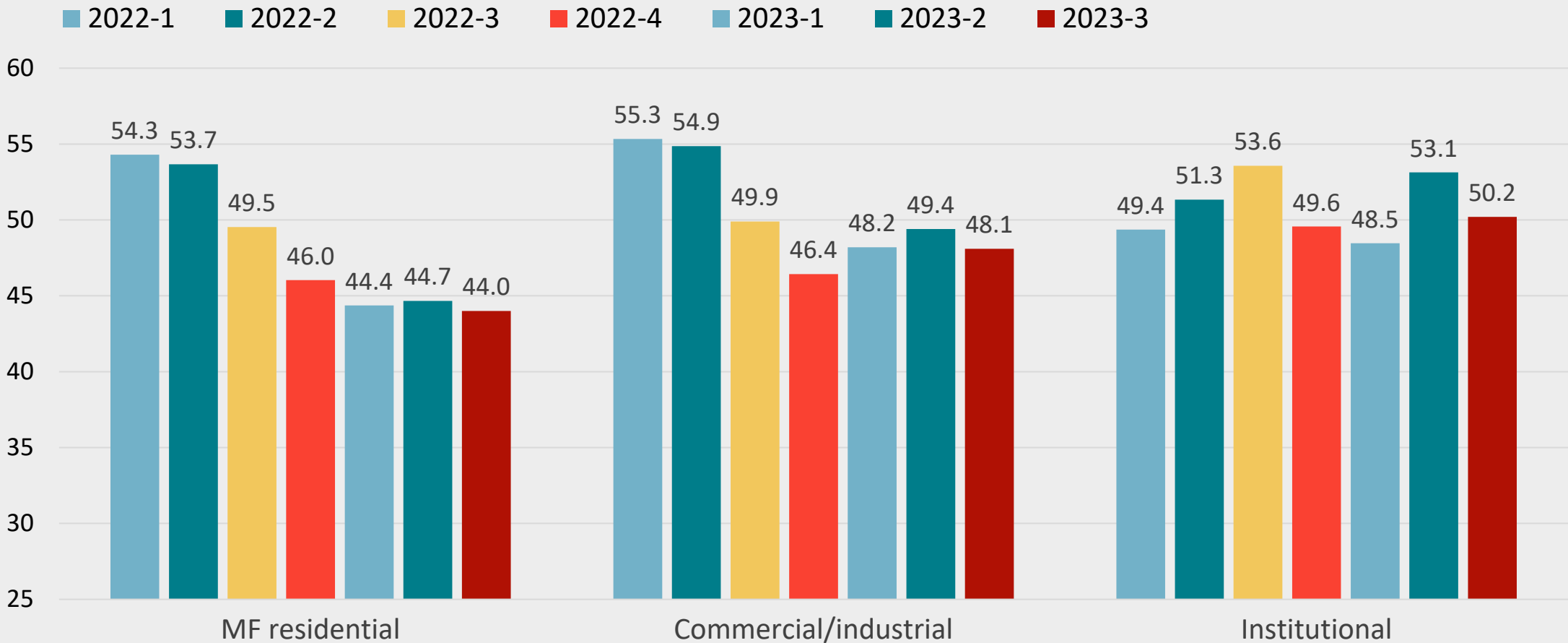
Average backlog at architecture firms (months)



Source: AIA Work-on-the-Boards survey

MF residential is main sector pulling down scores; institutional sector seems to have most upside potential

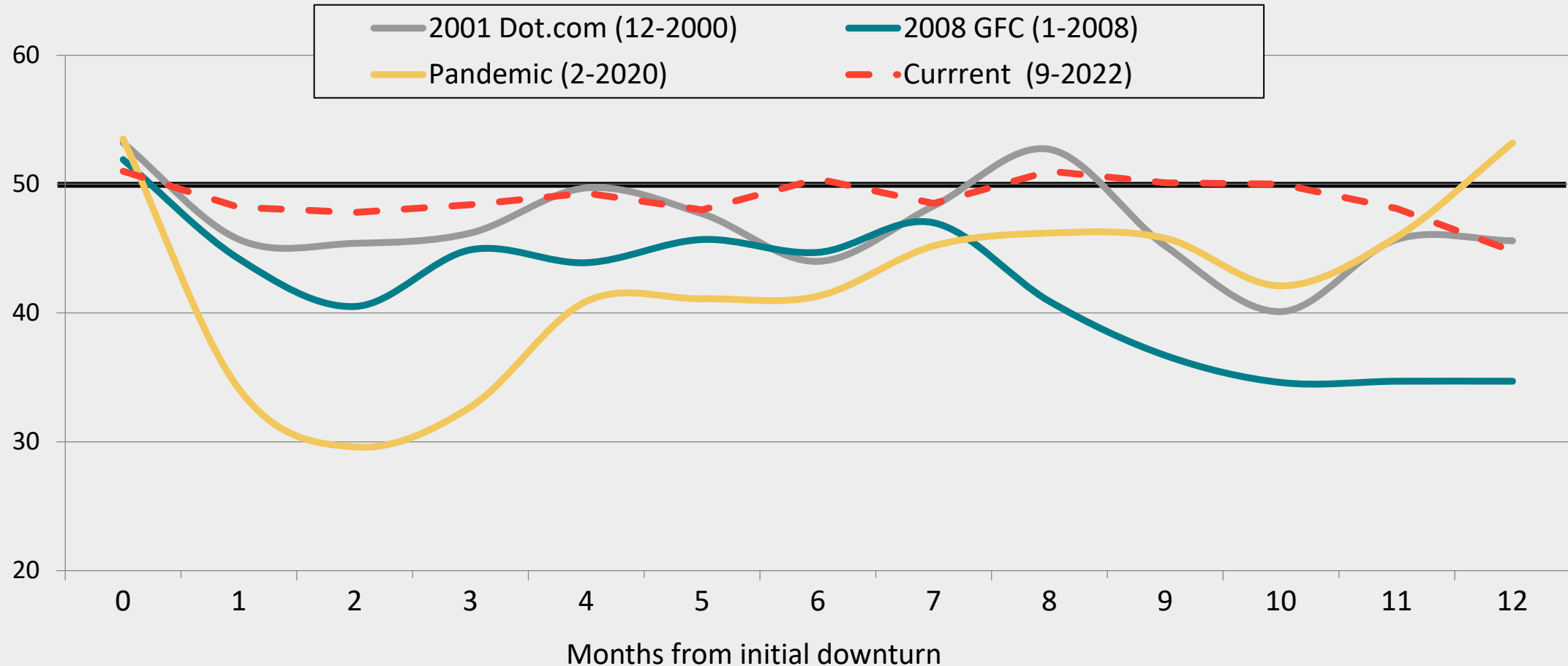
ABI scores by quarter for 2022 and 2023



Source: AIA/Deltek Architecture Billings Index

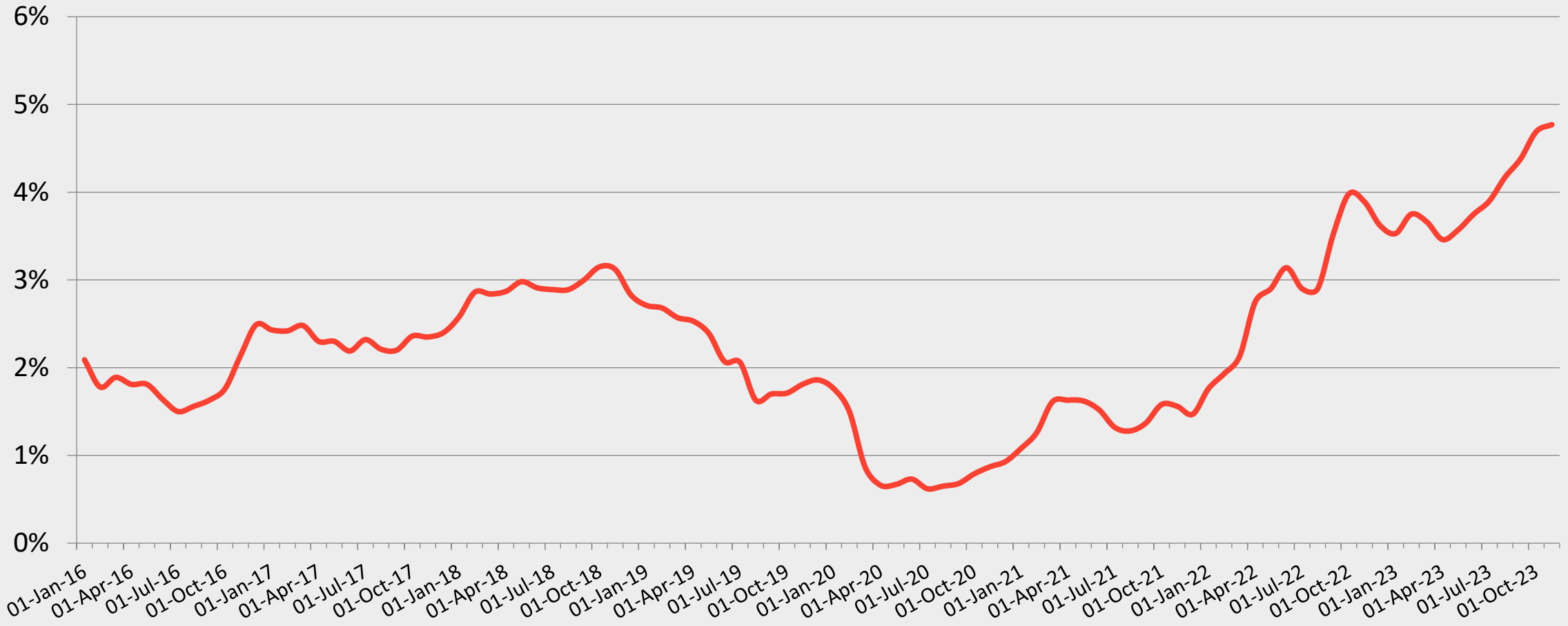
In previous three recessions, ABI downturn at onset was much sharper

Diffusion index: 50 = no change from previous month, seasonally adjusted



10-Year treasury bills are approaching 5%, and at their highest level in over 15 years

Annual yield on 10-year treasury bills



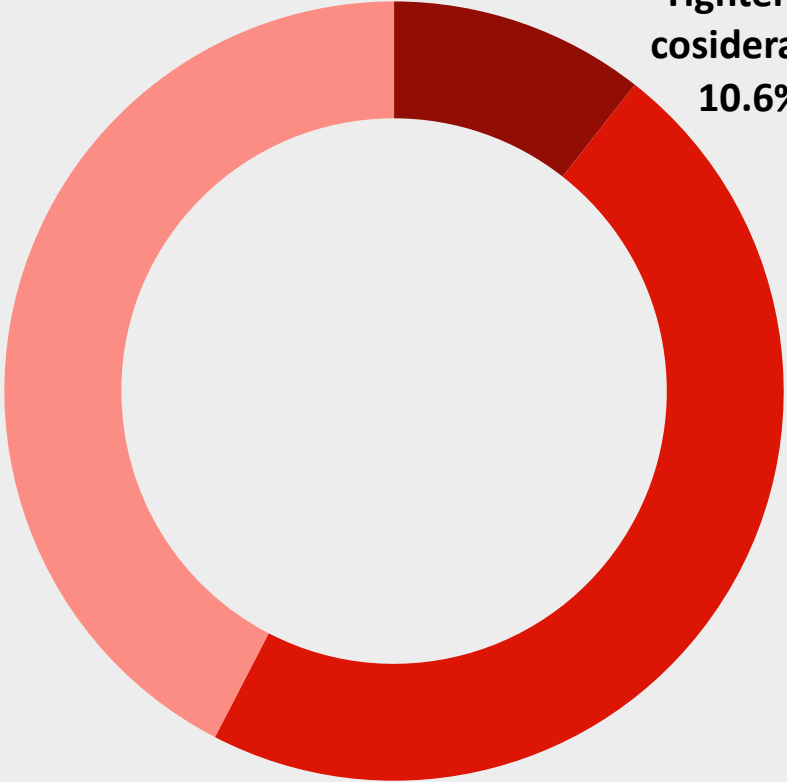
Source: Macrotrends (www.macrotrends.net)

Almost 60% of banks report that credit standards for commercial real estate loans have tightened recently

Change in bank's credit standards over past three months

No banks in survey reported easing

**Remain unchanged
42.4%**



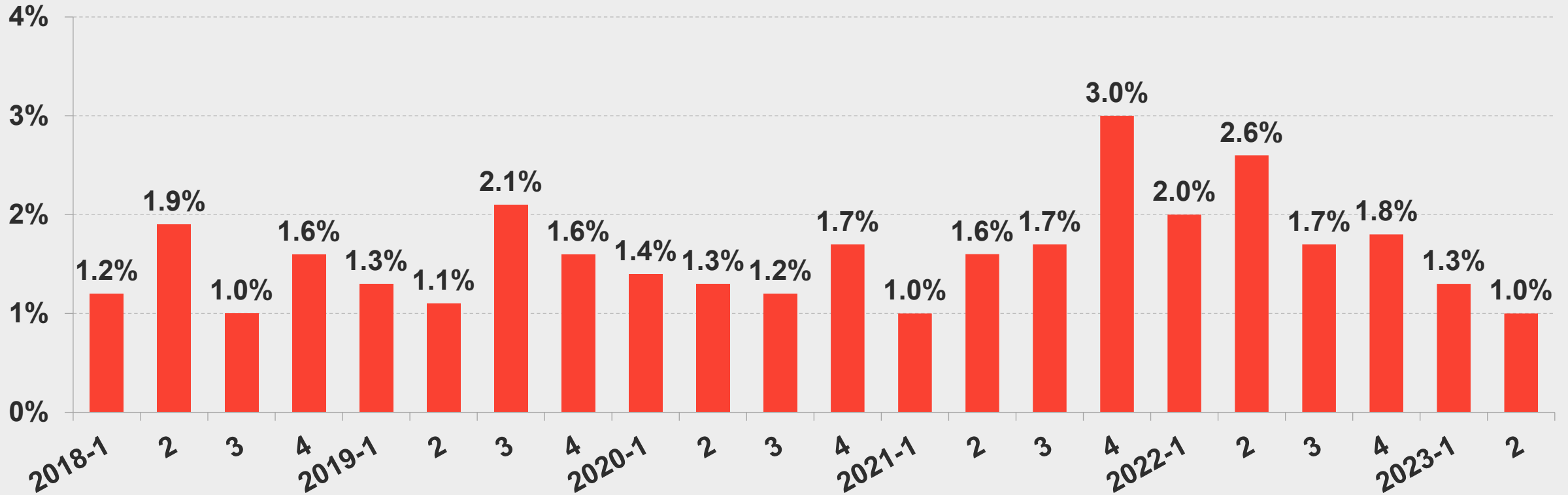
**Tightened considerably
10.6%**

**Tightened somewhat
47.0%**

Source: Federal Reserve Board Senior Loan Officer Opinion Survey (Table 1; Q. 7) October 2023.

After relatively strong growth over past two years, commercial real estate lending has slowed considerably

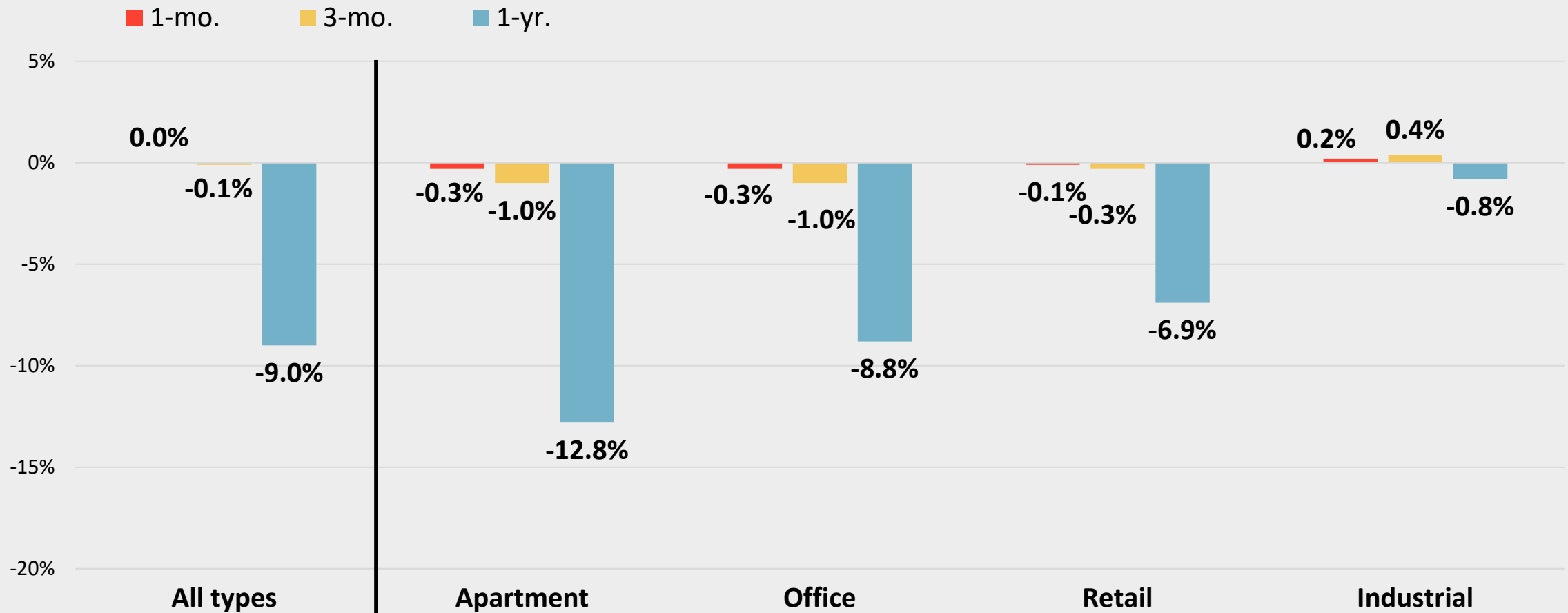
Commercial real estate debt outstanding; change from prior quarter



Source: Trepp analysis of Federal Reserve data, as published in Wall Street Journal, October 31, 2023

Values for all in commercial property types have declined over the past year, but downturn seems to be moderating

Change in price index for September 2023



Source: RCA Commercial Property Price Indexes

Spending on the construction of buildings has been very strong so far in 2023

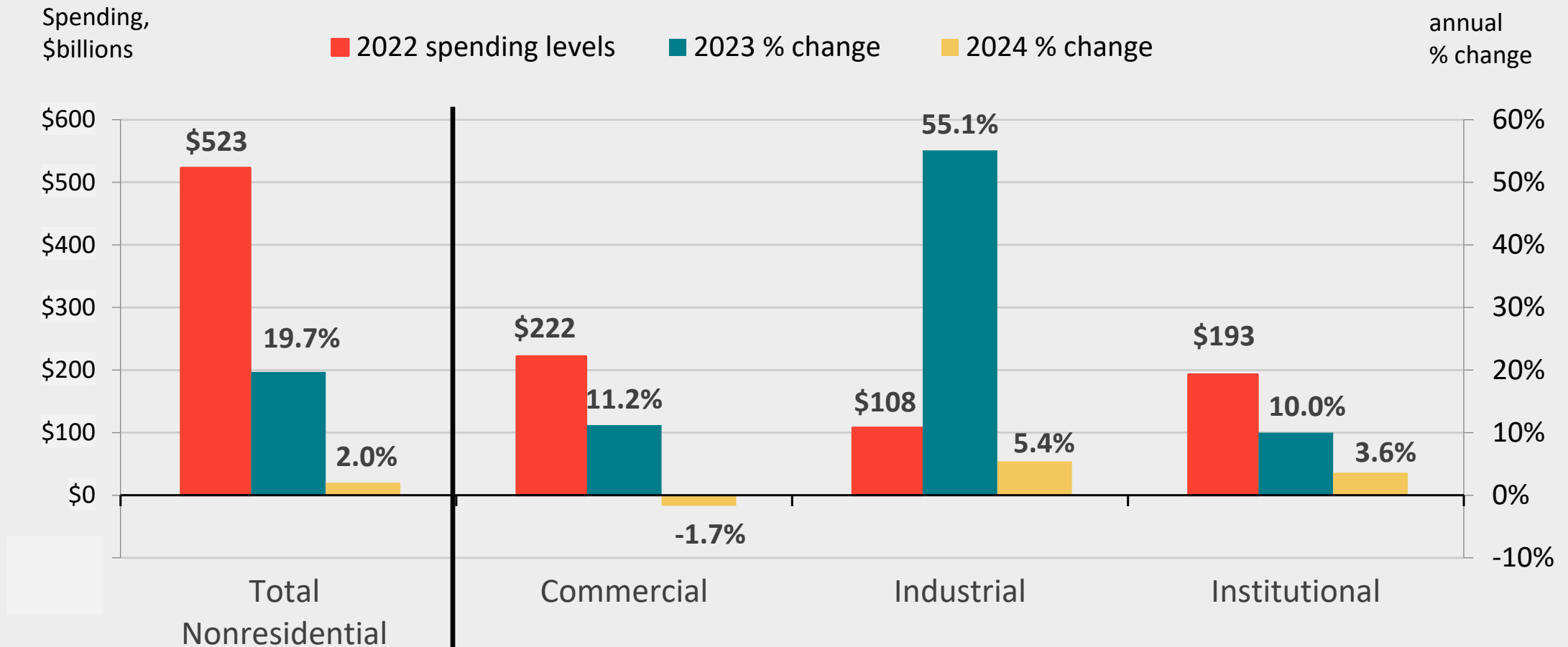
Billions of \$, Jan-Sep 2023 vs. Jan-Sep 2022 totals

	2023	2022	% Change
Total Nonresidential Building Construction	\$561.3	\$465.8	20.5%
Commercial/ Industrial	\$327.6	\$253.2	29.4%
Lodging	\$17.6	\$14.2	23.5%
Office	\$73.3	\$68.0	7.7%
Commercial (retail & other)	\$97.2	\$89.1	9.2%
Manufacturing	\$139.5	\$81.8	70.5%
Institutional	\$233.7	\$212.6	9.9%
Healthcare	\$46.1	\$40.4	14.1%
Education	\$86.5	\$77.9	11.1%
Religious	\$2.4	\$2.3	5.8%
Public Safety	\$9.5	\$8.7	8.2%
Amusement & Recreation	\$23.8	\$22.2	7.2%
Transportation	\$47.3	\$43.5	8.8%
Communication	\$18.1	\$17.7	2.4%

Source: U.S. Census Bureau, Value of Construction Put in Place

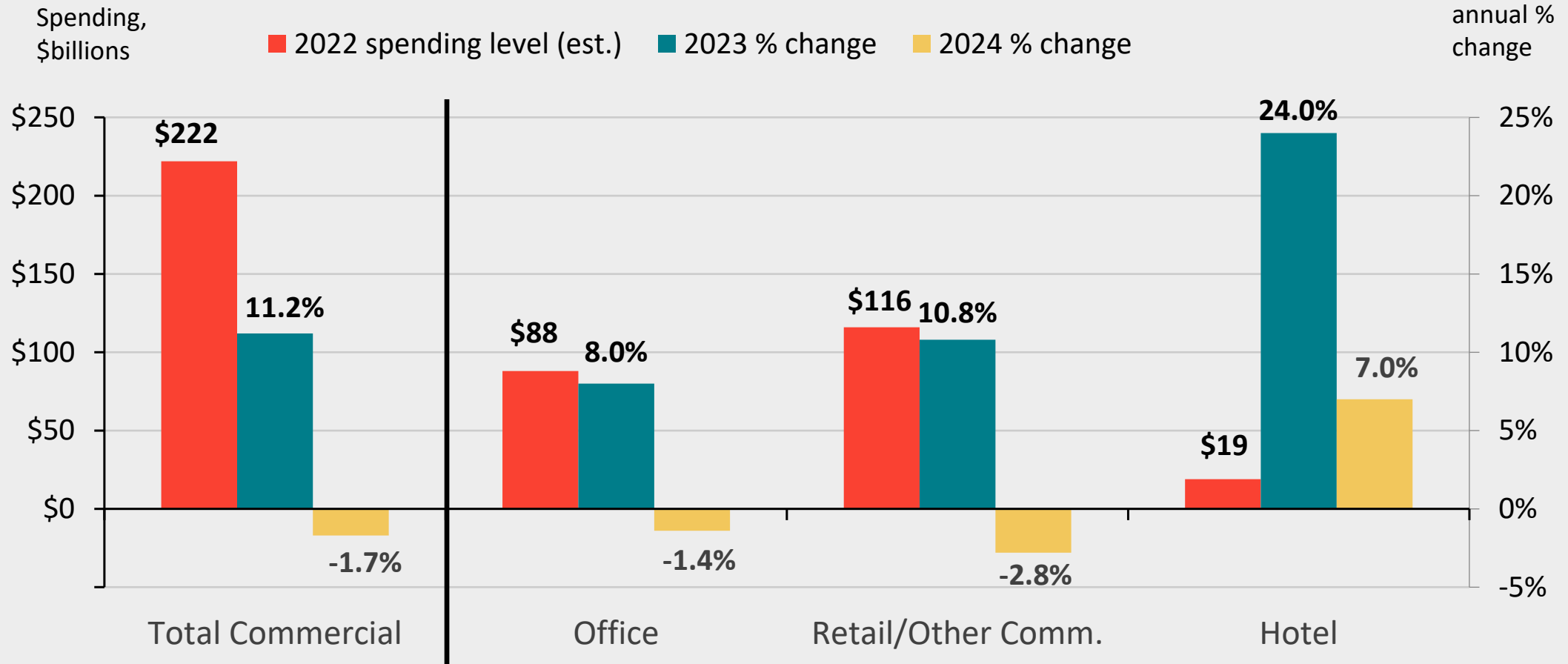
Construction spending expected to accelerate this year before slowing significantly in 2024

Billions \$ / % change—construction spending on nonresidential buildings



Hotel construction seeing healthy growth this year; retail along with offices expected to slip next year

Billions \$ / % change—construction spending on nonresidential buildings



Ken Simonson

Chief Economist,
Associated General
Contractors of America





AGC
THE CONSTRUCTION
ASSOCIATION

November 2023

US Construction Outlook: Lively, Level, or Lackluster?

Ken Simonson

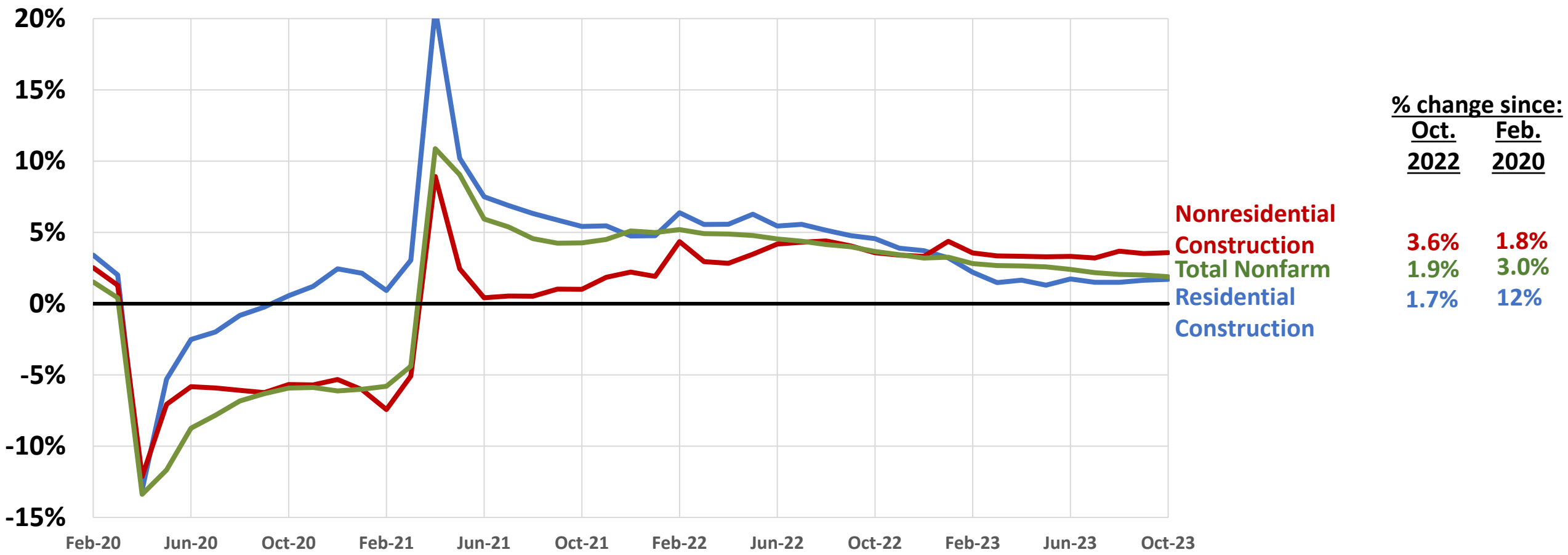
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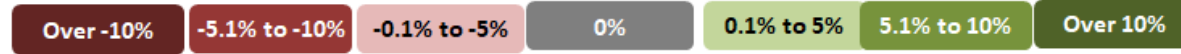
Total nonfarm & construction employment, Feb. 2020–Oct. 2023

Year-over-year change, seasonally adjusted



Construction employment change by state, Sep. 2022-Sep. 2023 (U.S.: 2.8%)

43 states & DC up & 7 states down

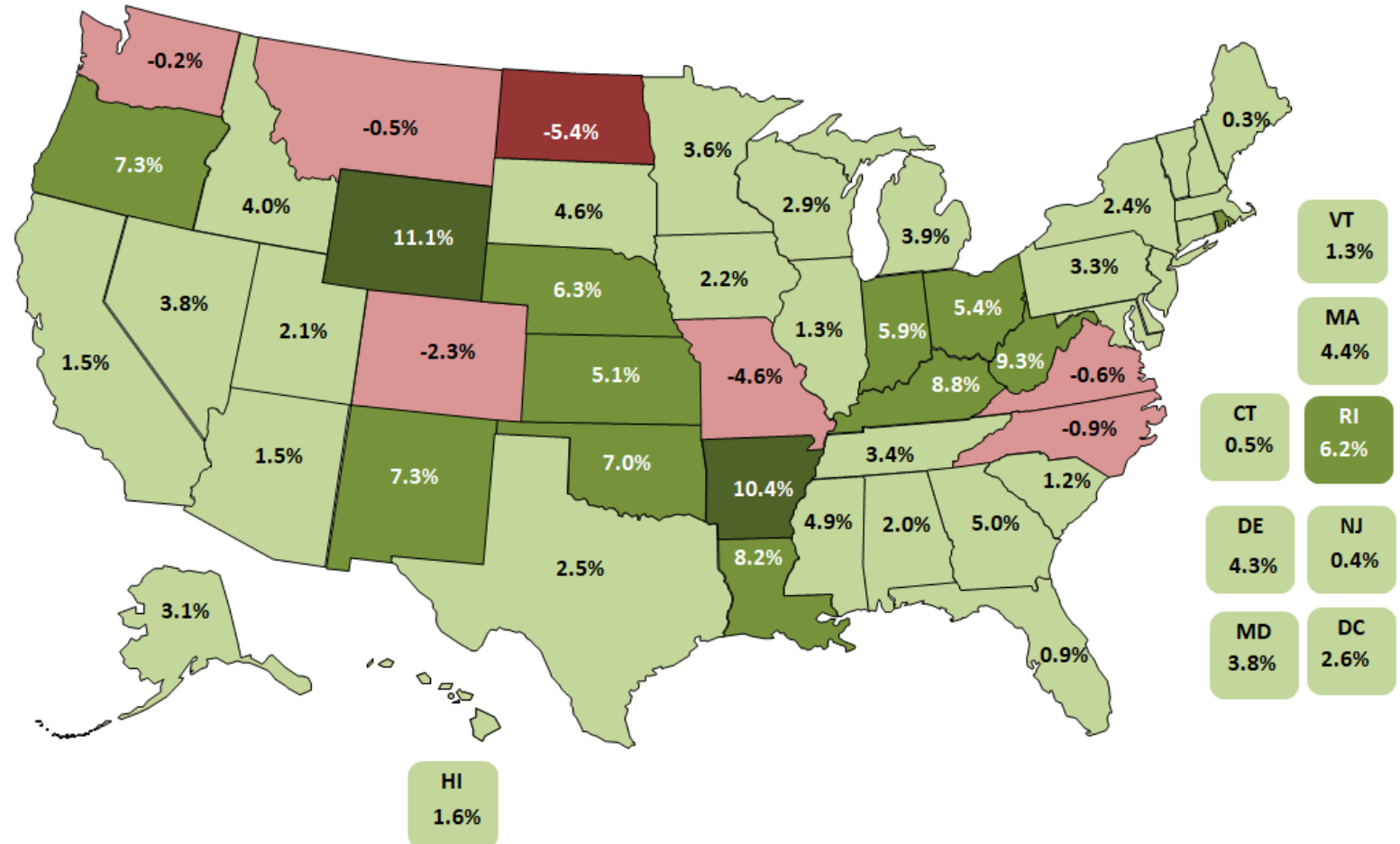


Top 5

WY	11.1%
AR	10.4%
WV	9.3%
KY	8.8%
LA	8.2%

Bottom 5

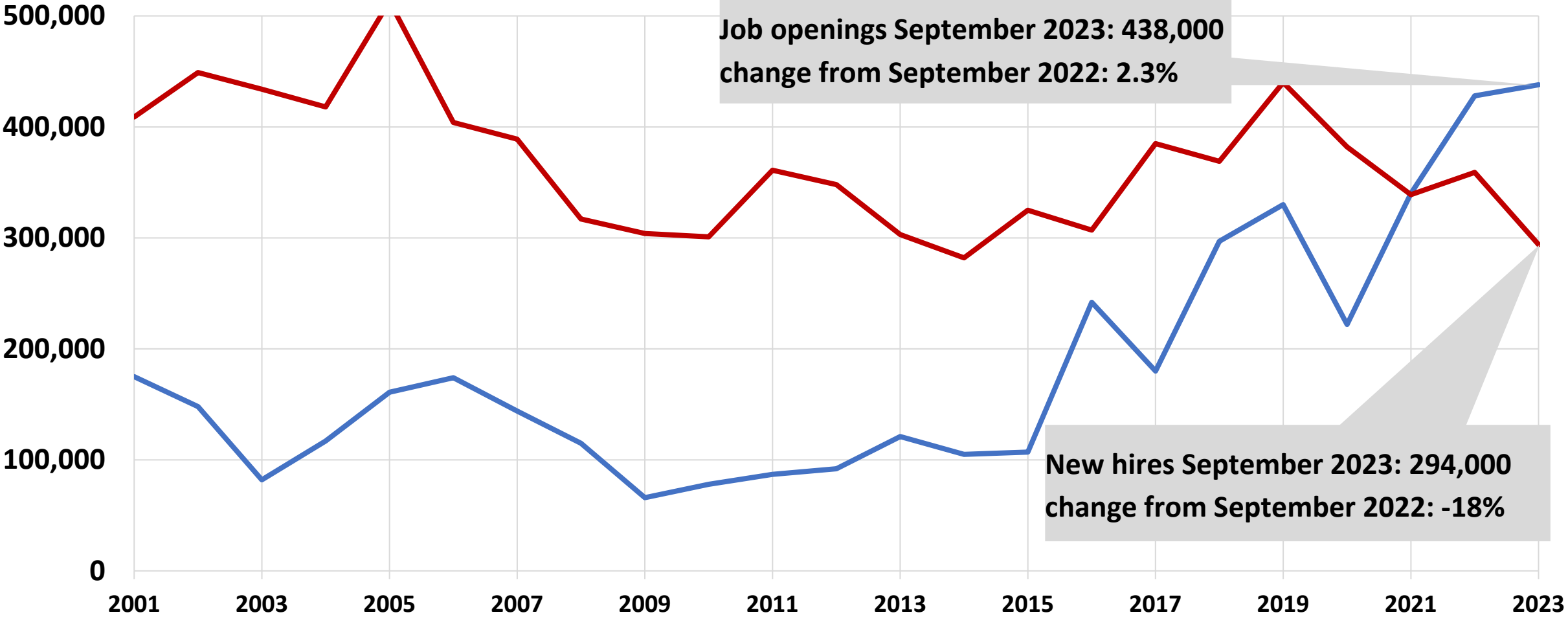
ND	-5.4%
MO	-4.6%
CO	-2.3%
NC	-0.9%
VA	-0.6%



Construction job openings & new hires



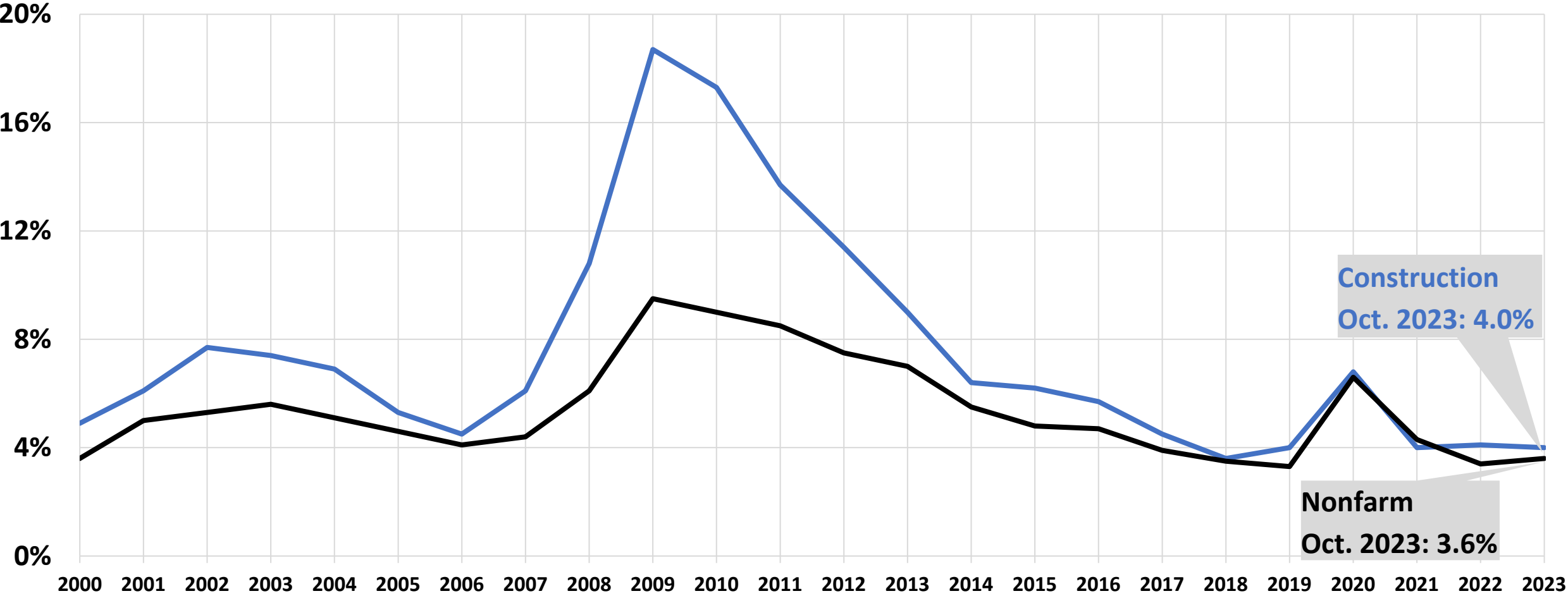
Job openings and hires, September 2001-September 2023, not seasonally adjusted



September unemployment rate: total nonfarm & construction



Oct. 2000-Oct. 2023, not seasonally adjusted (NSA)

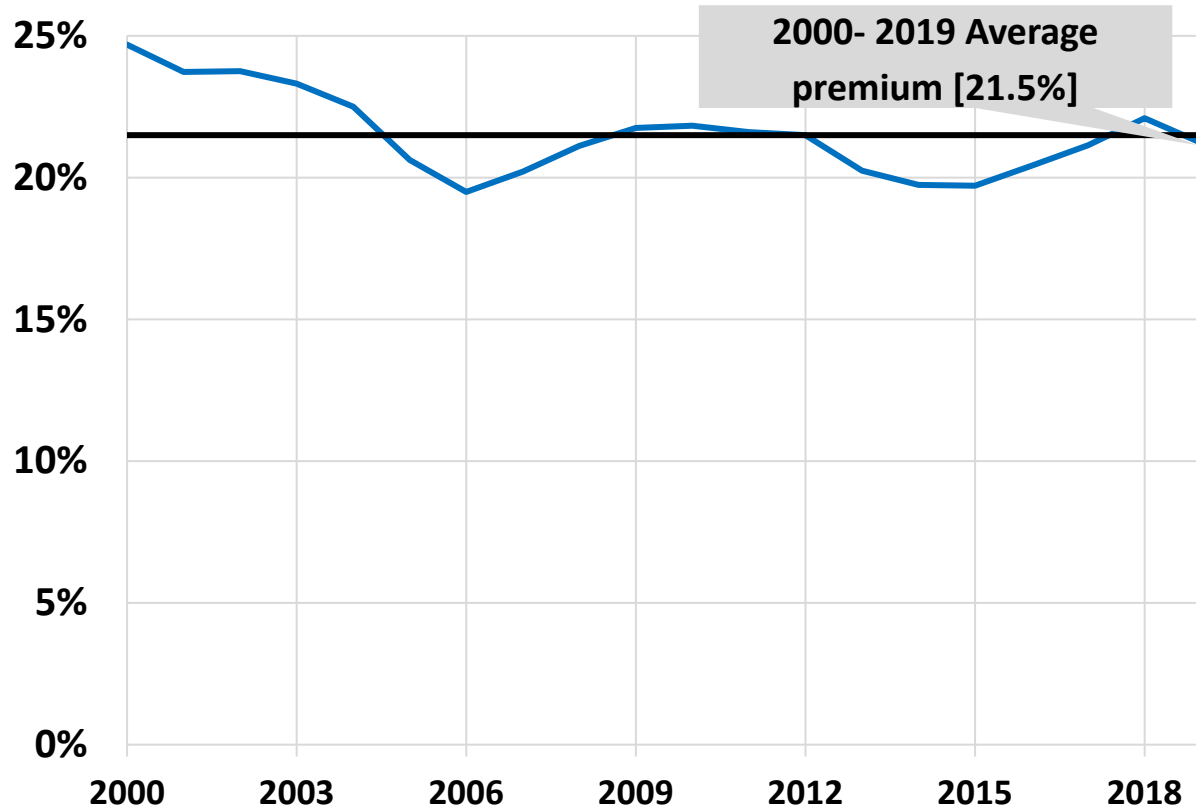


Construction wage “premium” vs. total private sector

Excess of average hourly earnings (AHE) for production and nonsupervisory employees in construction vs. private sector

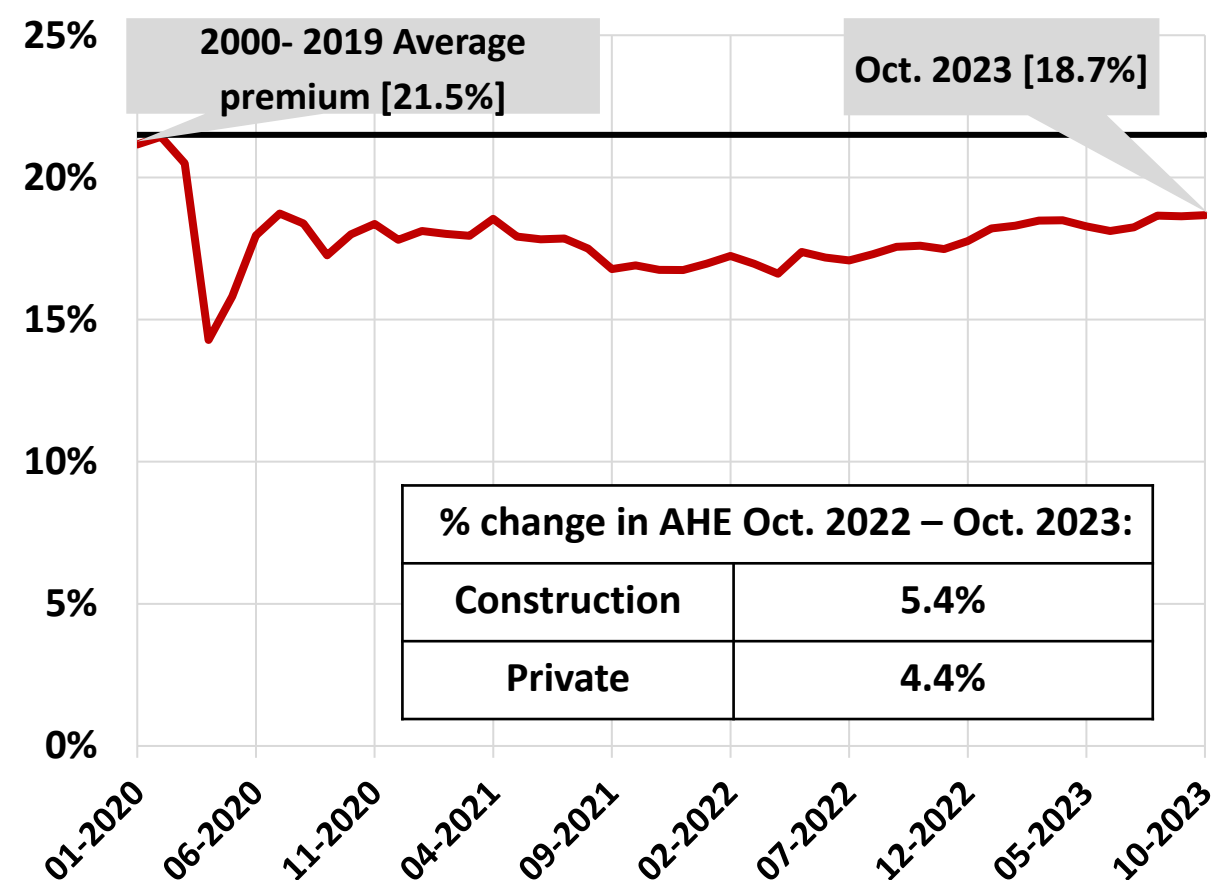


Annual premium, 2000–2019



Monthly premium, Jan. 2020–Oct. 2023

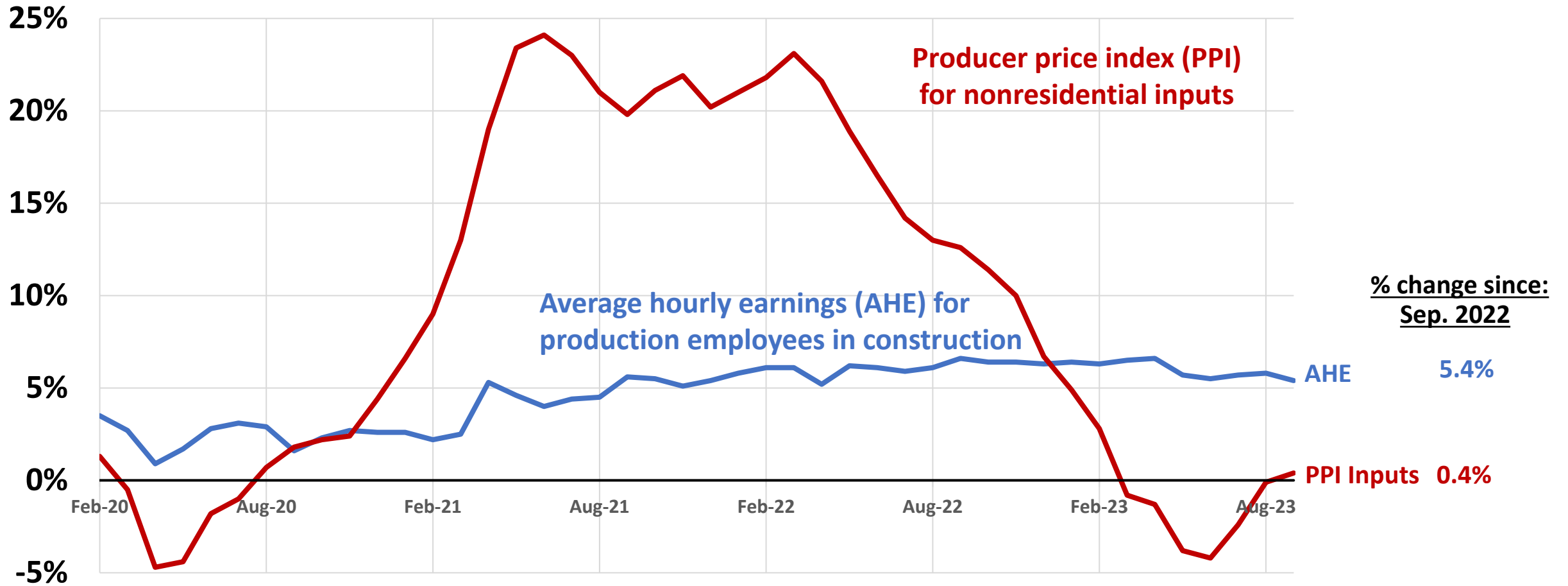
(seasonally adjusted)



Construction inputs & labor costs



Year-over-year change in PPI for nonresidential inputs & AHE for production employees in construction, Feb. 2020 – Sep. 2023



Some construction costs remain volatile

producer price indexes, 1 - & 12-mo. change (not seasonally adjusted)



September 2023 change from:

Aug. 2023 Sep. 2022
(1 month) (12 months)

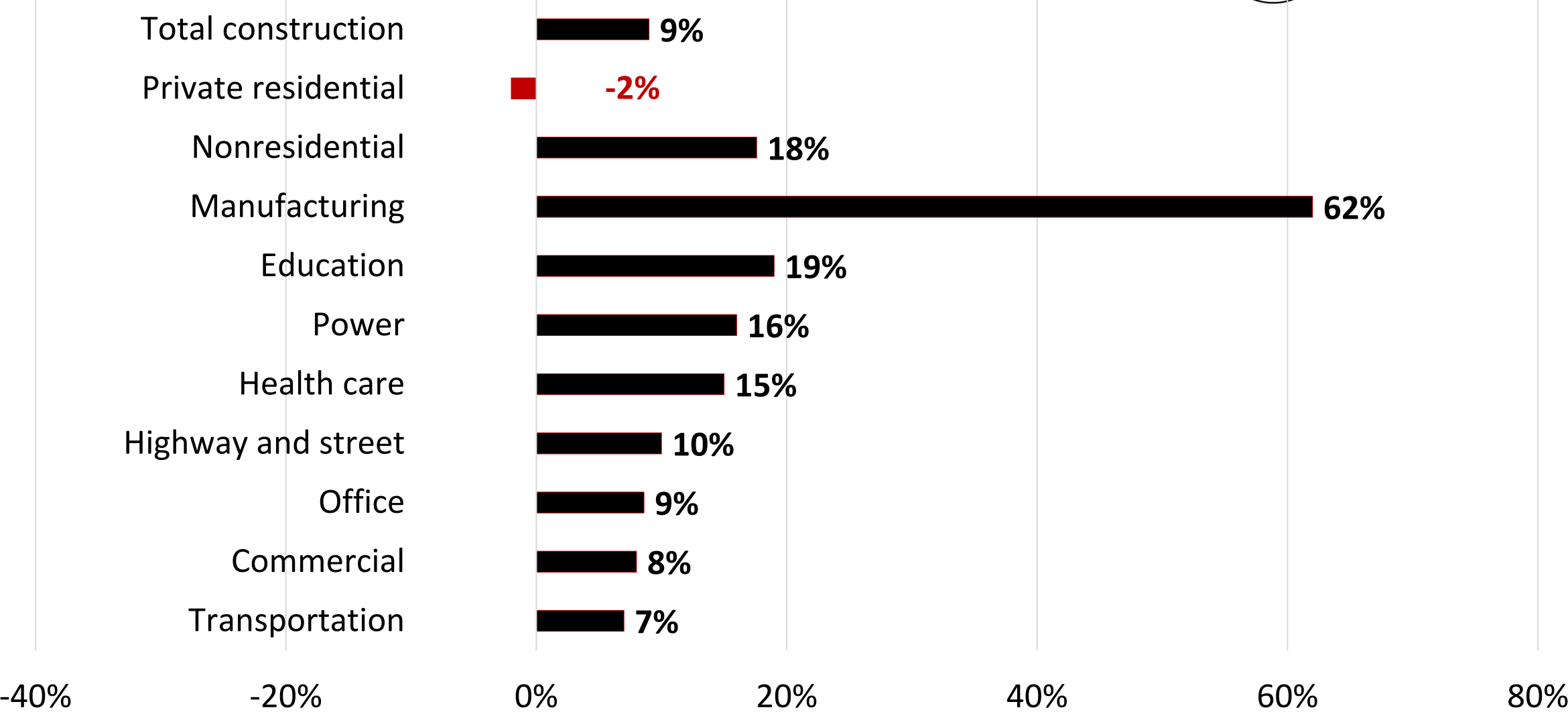
Cement	0.7%	10.8%
Ready-mix concrete	0.1%	9.8%
Diesel fuel	4.3%	-18.6%

Subcontractor price indexes, nonresidential building work

Roofing contractors	-0.5%	10.8%
Plumbing contractors	0.0%	7.1%
Electrical contractors	0.1%	4.1%
Concrete contractors	0.0%	-2.1%

Change in construction spending: September 2023 vs. September 2022

Year-over-year % change in current (not inflation-adjusted) dollars, seasonally adjusted

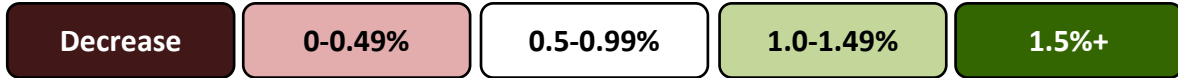


Medium-term outlook for construction



- Economic recovery should continue but risk of recession remains
- Homebuilding appears poised for slow recovery
- Multifamily, warehouse, retail, office, lodging: slowdown likely due to rising rates
- Data center and manufacturing construction should remain hot
- Infrastructure Investment & Jobs Act, “Chips” Act, Inflation Reduction Act will give major boost to infrastructure, manufacturing, and power construction. BUT
 - money will be slow to turn into construction awards and spending
 - Buy America(n), labor, environmental strings may tie up project starts for years
- Materials costs, lead times: mostly better except electrical gear, some electronics
- Labor availability has resumed being the #1 challenge for many contractors

Population change by state, July 2021–July 2022 (U.S.: 0.38%)

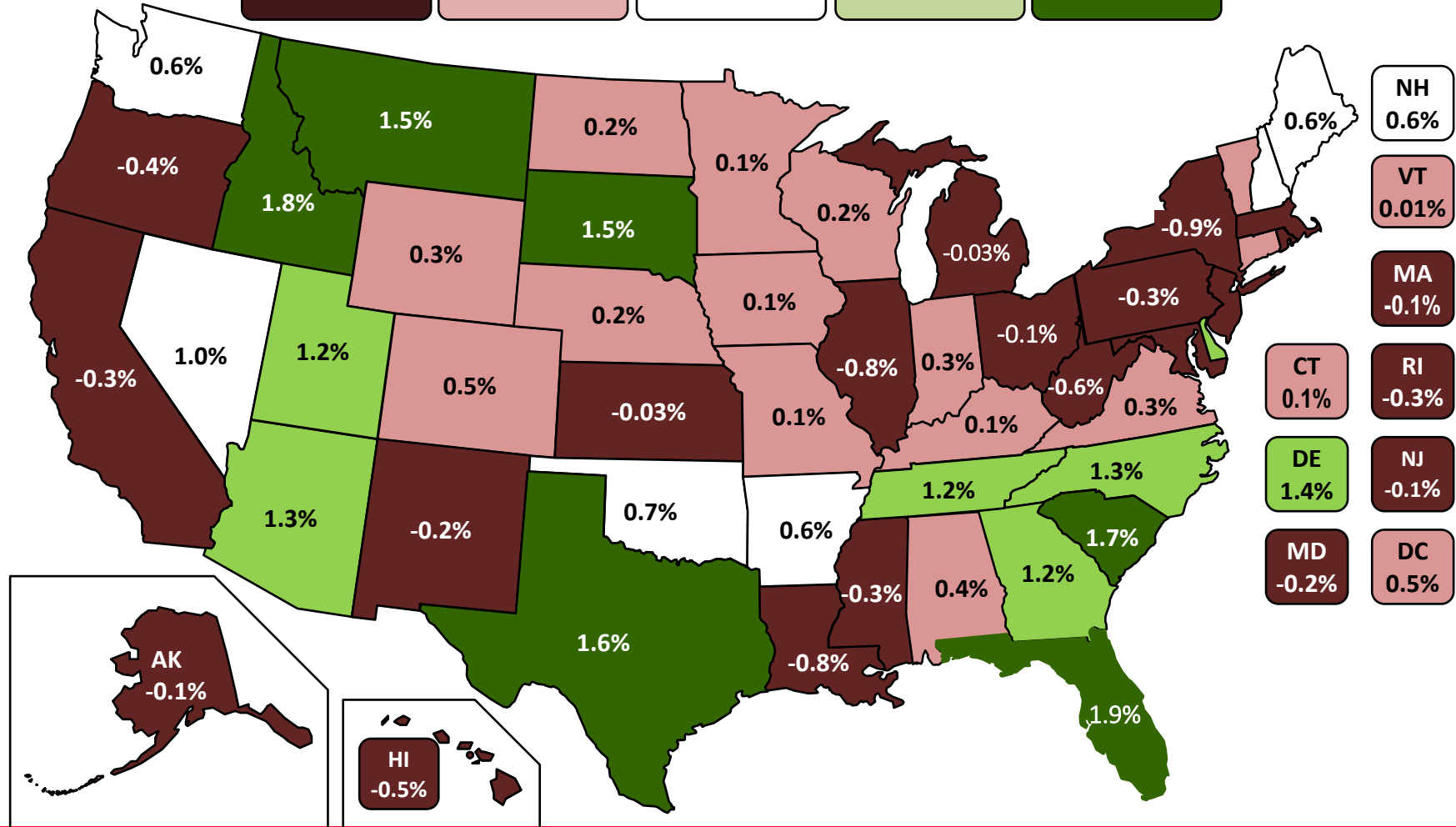


Top 6

FL	1.9%
ID	1.8%
SC	1.7%
TX	1.6%
SD, MT	1.5%

Bottom 5

NY	-0.9%
IL	-0.8%
LA	-0.8%
WV	-0.6%
HI	-0.5%



AGC economic resources

(email ken.simonson@agc.org)

- *Data DIGest*: weekly 1-page email ([subscribe](#) at <https://marketplace.agc.org/Store/ItemDetail?iProductCode=4401>)
- Surveys (2023 [Workforce Survey](#): <https://www.agc.org/news/2023/09/06/new-survey-shows-significant-flaws-nations-approach-preparing-workers-construction-careers-and-how>)
- State and metro data, [fact sheets](#): www.agc.org/learn/construction-data
- Monthly [press releases](#): construction spending; producer price indexes; national, state, metro employment with rankings: <https://www.agc.org/newsroom>
- Construction impact model: <https://www.agc.org/agc-construction-impact-model>
- ConsensusDocs Price Escalation Resource [Center](#): <https://www.consensusdocs.org/price-escalation-clause/>



Vol. 22, No. 17 May 9-12, 2023

PPI for inputs rises in April but dips over 12 months; pay in construction tops U.S. median by 18%

Prices show mixed trends in April

The producer price index (PPI) for material and service inputs to new nonresidential construction rose 0.5% from March to April but declined 1.1% year-over-year (y/y), according to Bureau of Labor Statistics (BLS) data posted on Thursday.

[Read more](#)

Construction pay tops U.S. median by 18%

"Half of payroll workers in construction earn more than \$54,540," 18% more than the U.S. median wage of \$46,310, "and the top 25% make at least \$77,030," 4.5% higher than the U.S. top quartile base of \$73,460, the National Association of Home Builders reported on Tuesday, based on its analysis of May 2022 Occupational Employment and Wage Statistics posted by BLS...

[Read more](#)

Child counts decline in 35 states

In a trend with implications for school and other construction, "Thirty-five states have fewer children than they did five years ago, a situation caused by declining birth rates nationwide, but also by young families migrating across state borders in search of cheaper housing," Stateline reported on Thursday...

[Read more](#)

Results from RICS-AACE construction survey

Firms reporting declining profit margins outnumbered firms reporting rising margins by 27 percentage points (a net balance reading of -27%) in the first quarter (Q1) 2023 RICS-AACE USA Construction Monitor, covering 60 responses between March 8 and April 21 and posted by RICS on Monday...

[Read more](#)

AGC Highway safety survey closes tonight

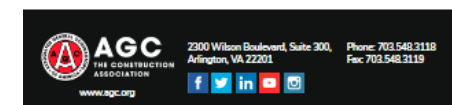
Highway contractors are invited to complete AGC's annual highway work zone safety survey by tonight, May 12. Responses will be kept confidential.

[Read more](#)

Census of Construction reminder

The Census Bureau reminded firms in all industries, "The due date for responding to the 2022 Economic Census has passed, but it's not too late to respond..."

[Read more](#)



Claire Stubblefield

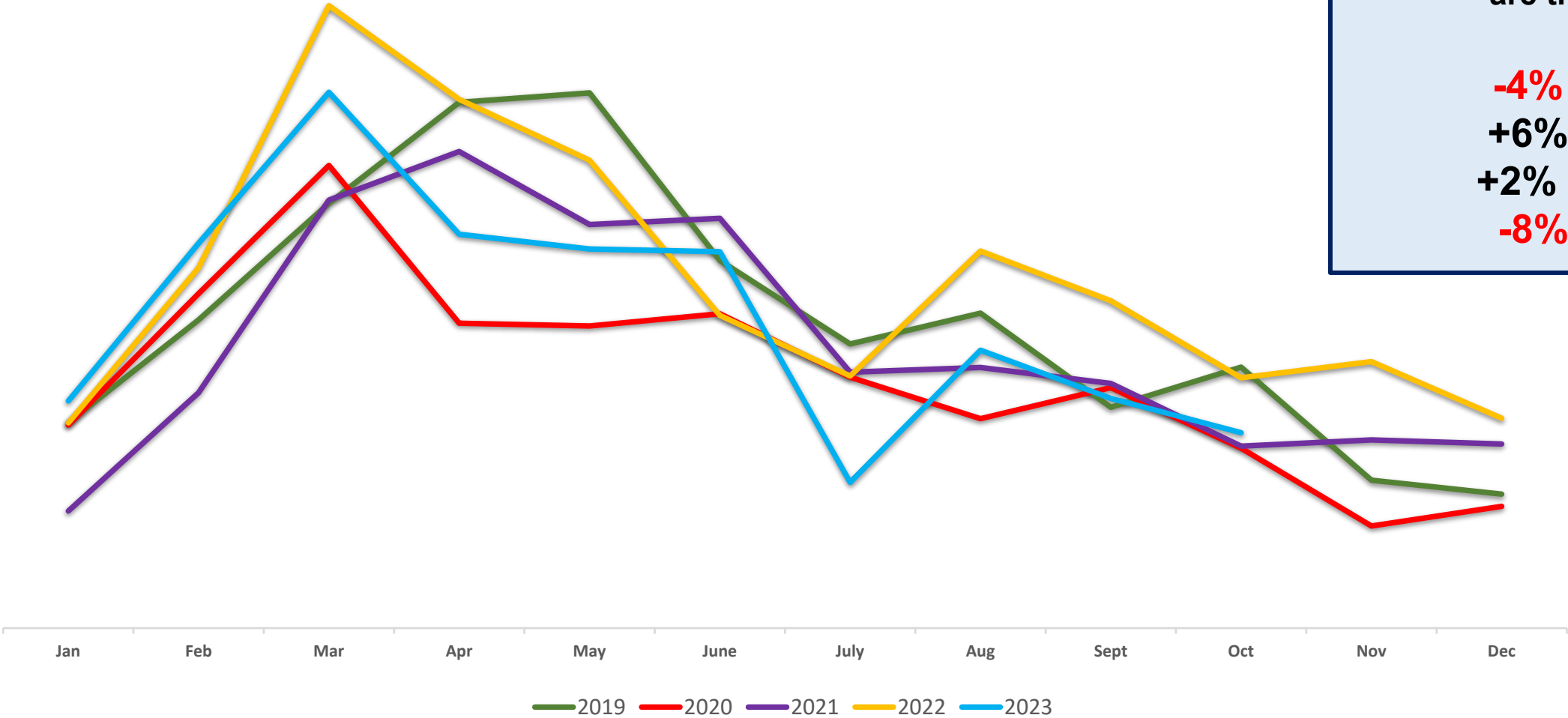
Vice President, Product Strategy
ConstructConnect



United States ConstructConnect Bid Projects by Month 2019-2023

When comparing prior years
January – October bids,
2023 U.S. bid projects
are trending:

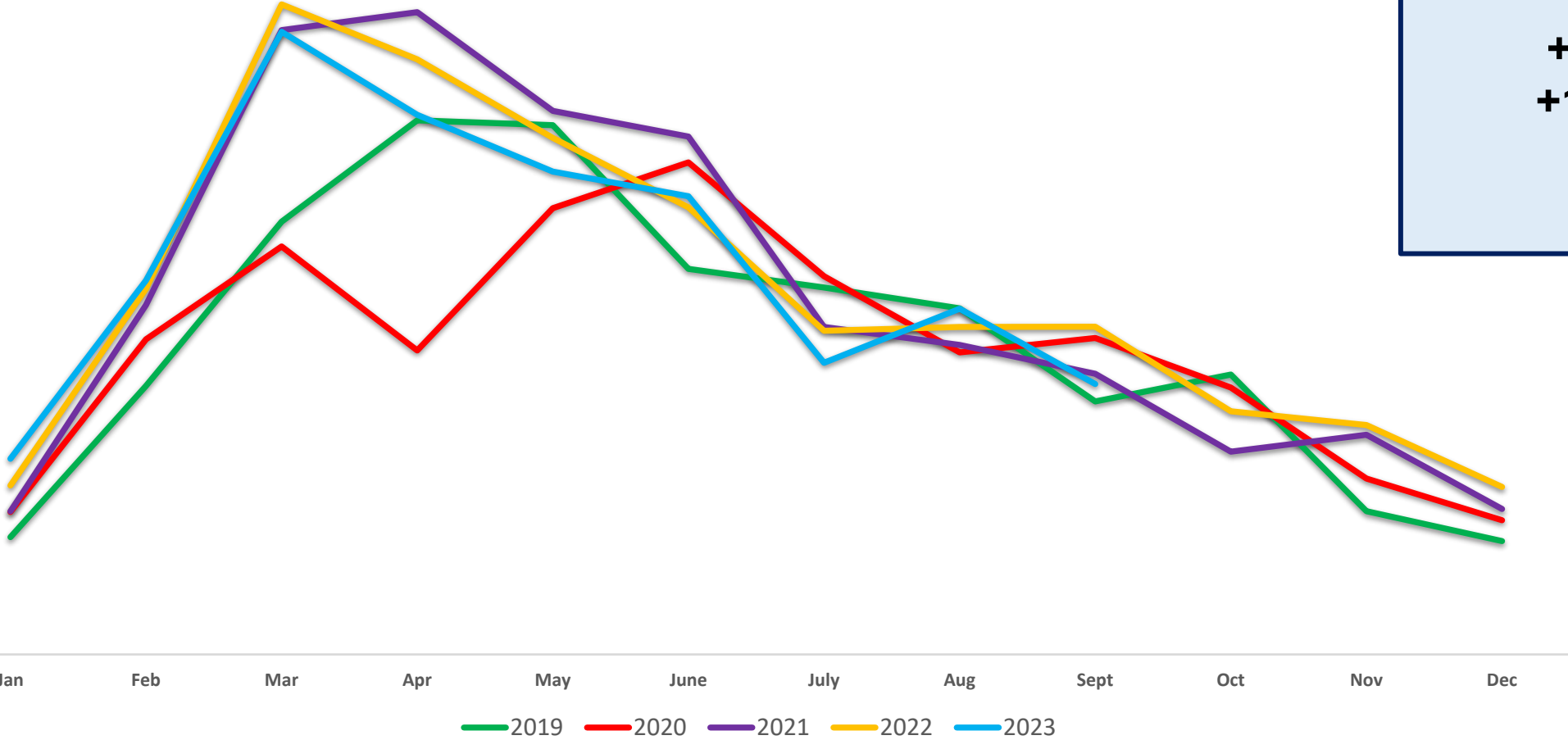
- 4% v. 2019
- +6% v. 2020
- +2% v. 2021
- 8% v. 2022



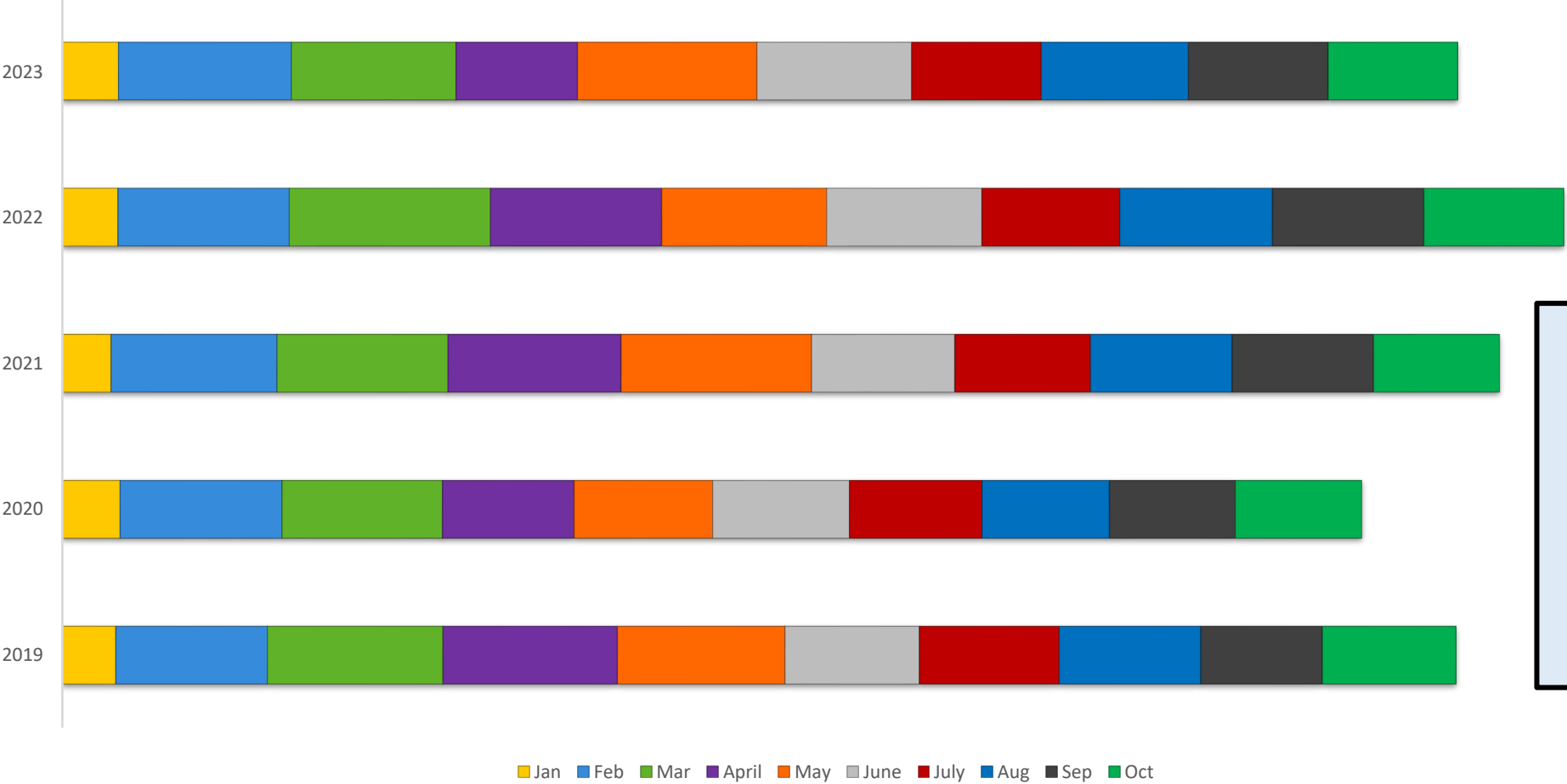
Canada ConstructConnect Bid Projects by Month 2019-2023

When comparing prior years
January – October bids,
2023 Canada bid projects
are trending:

- +7% vs. 2019
- +11% vs. 2020
- 3% vs. 2021
- 3% vs. 2022



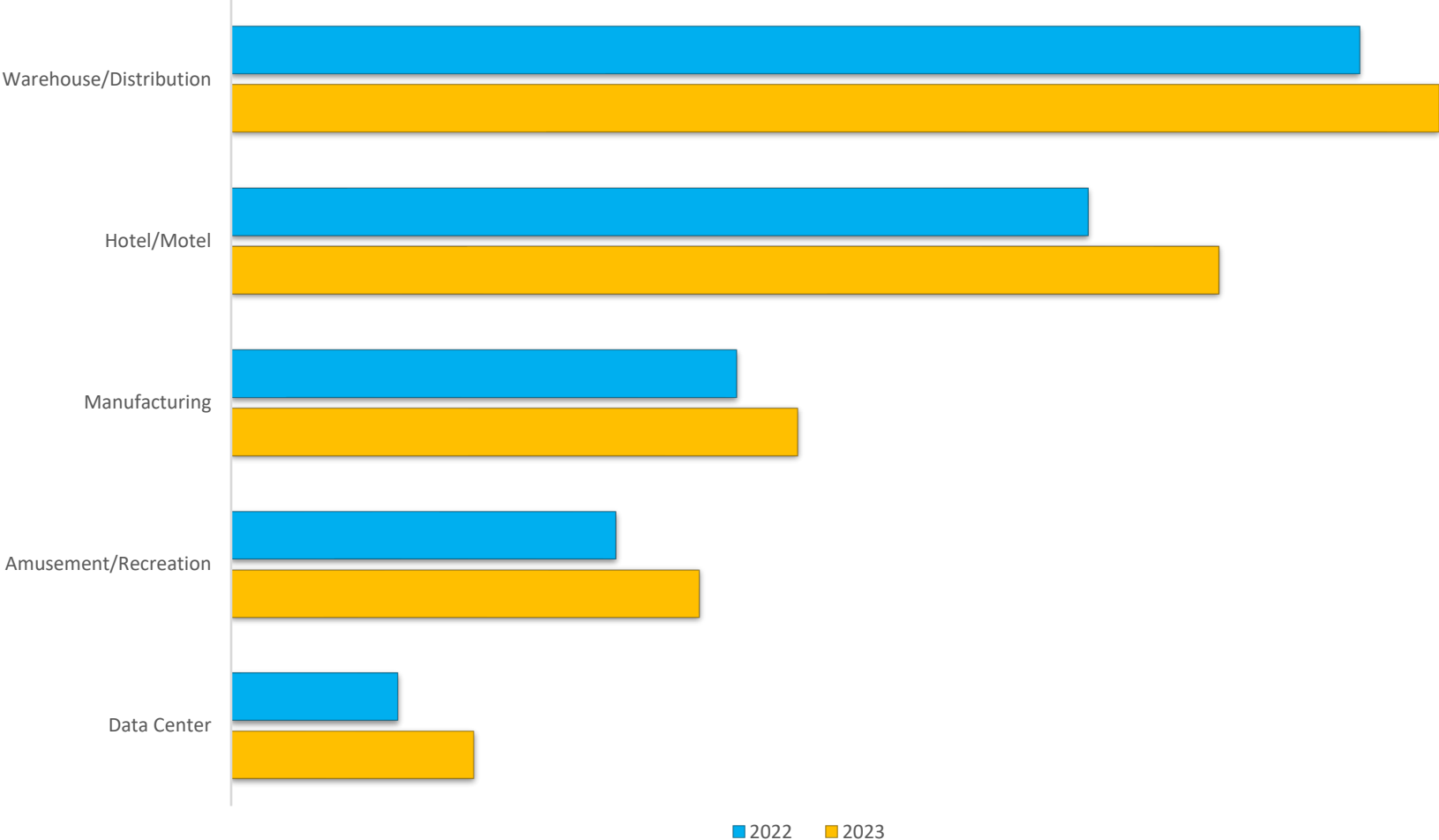
United States ConstructConnect New Projects by Month 2019-2023



When comparing prior years
January – October new projects,
2023 new projects
are trending:

0% vs. 2019
+7% vs. 2020
-3% vs. 2021
-7% vs. 2022

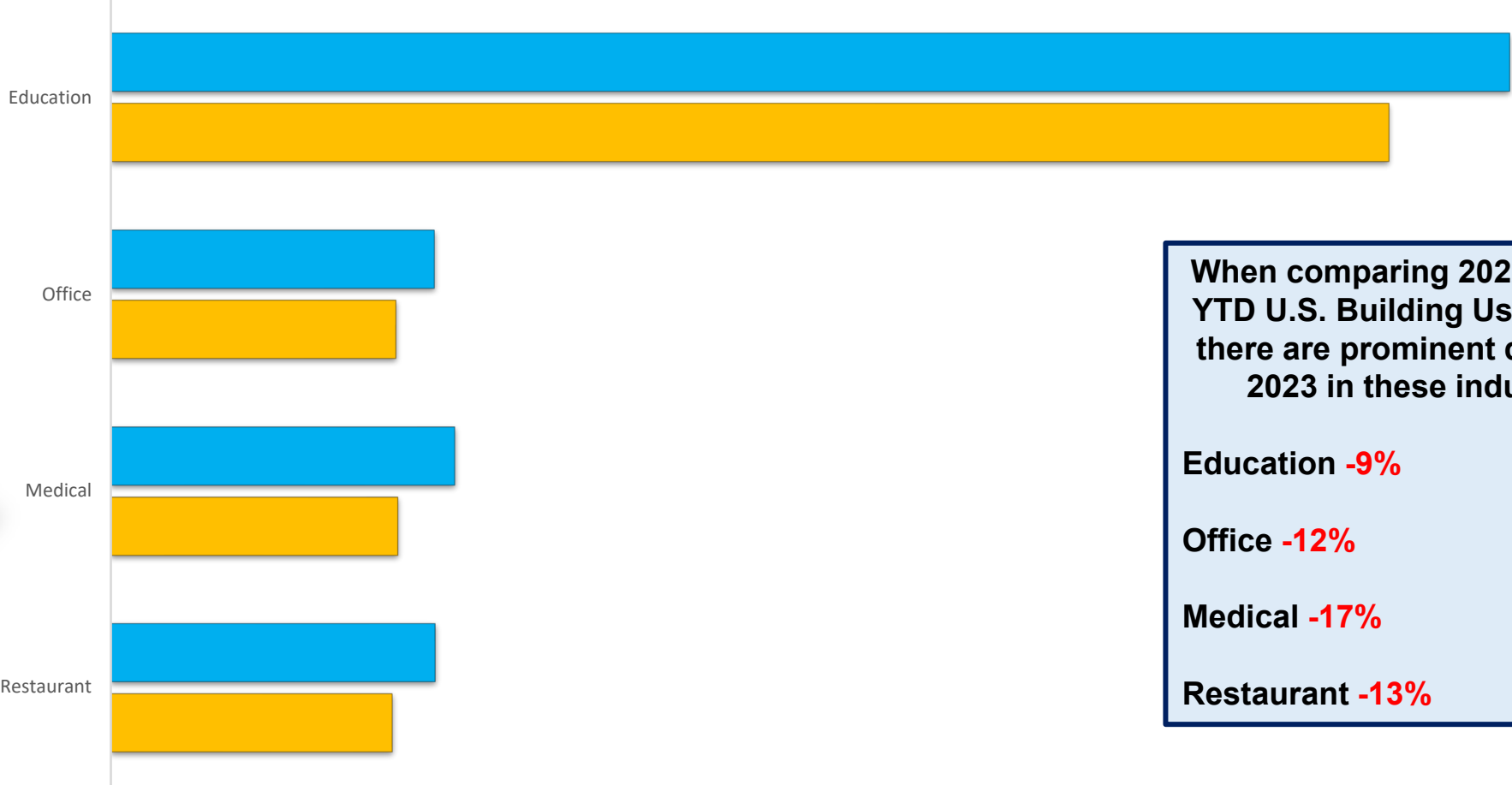
United States 2023 YTD ConstructConnect Building Use Increases



When comparing 2022 and 2023 YTD U.S. Building Use projects, there are prominent increases in 2023 in these industries:

- Warehouse/Distribution +7%
- Hotel/Motel +15%
- Manufacturing +12%
- Amusement/Recreation +22%
- Data Center +45%

United States 2023 YTD ConstructConnect Building Use Declines

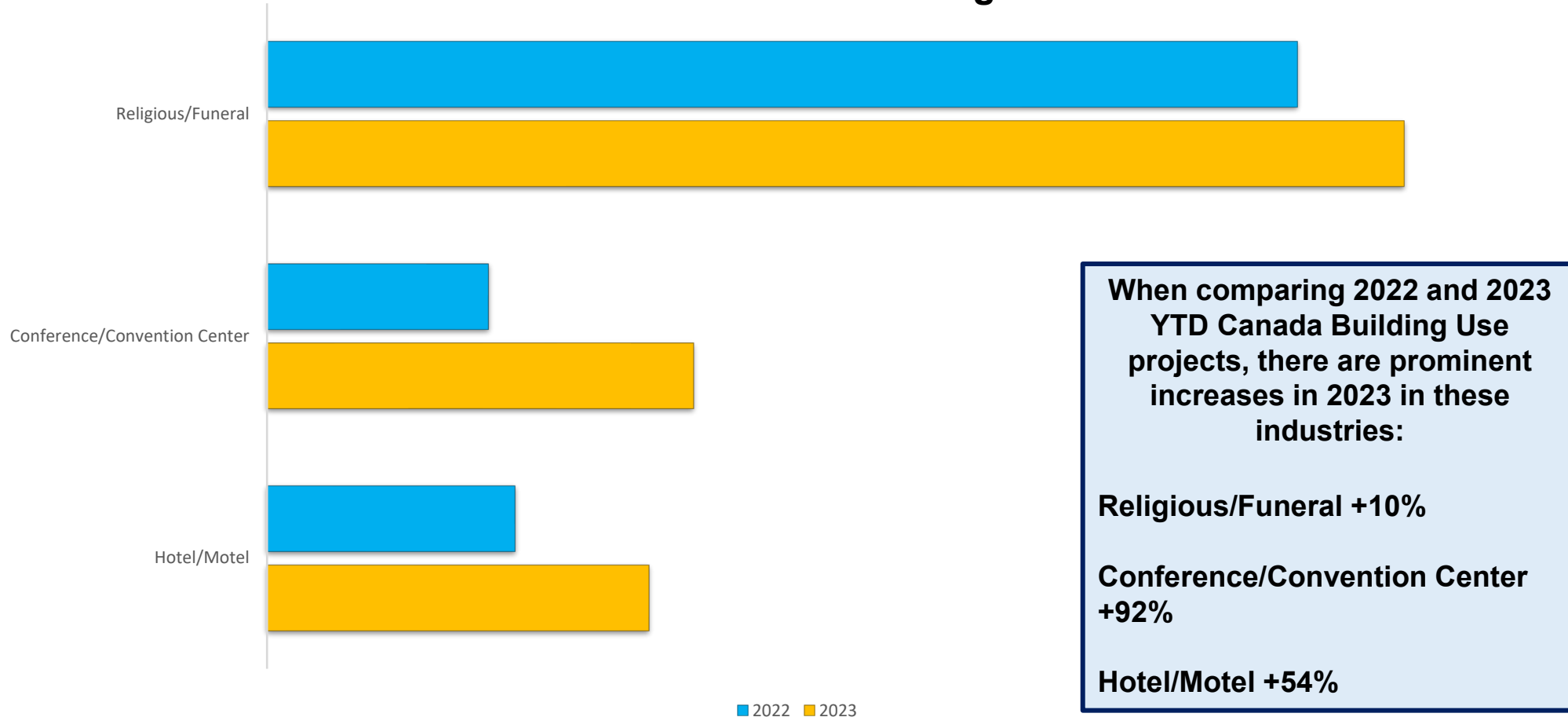


When comparing 2022 and 2023 YTD U.S. Building Use projects, there are prominent declines in 2023 in these industries:

- Education **-9%**
- Office **-12%**
- Medical **-17%**
- Restaurant **-13%**

■ 2022 ■ 2023

Canada 2023 YTD ConstructConnect Building Use Increases

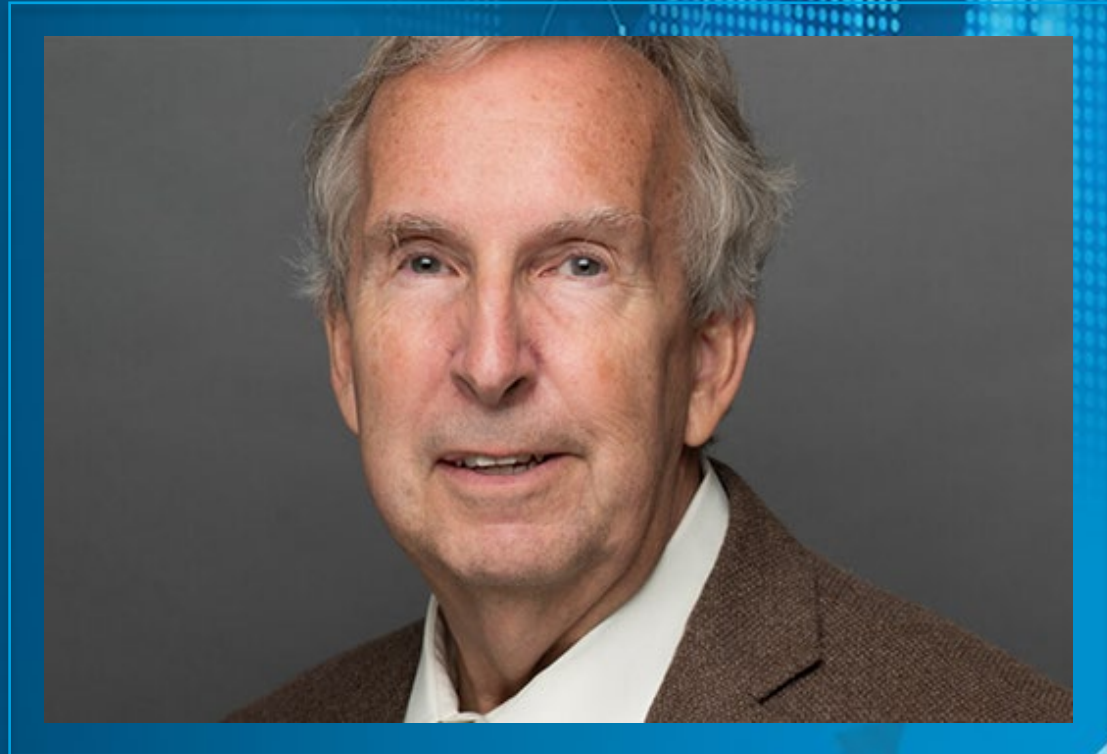


When comparing 2022 and 2023 YTD Canada Building Use projects, there are prominent increases in 2023 in these industries:

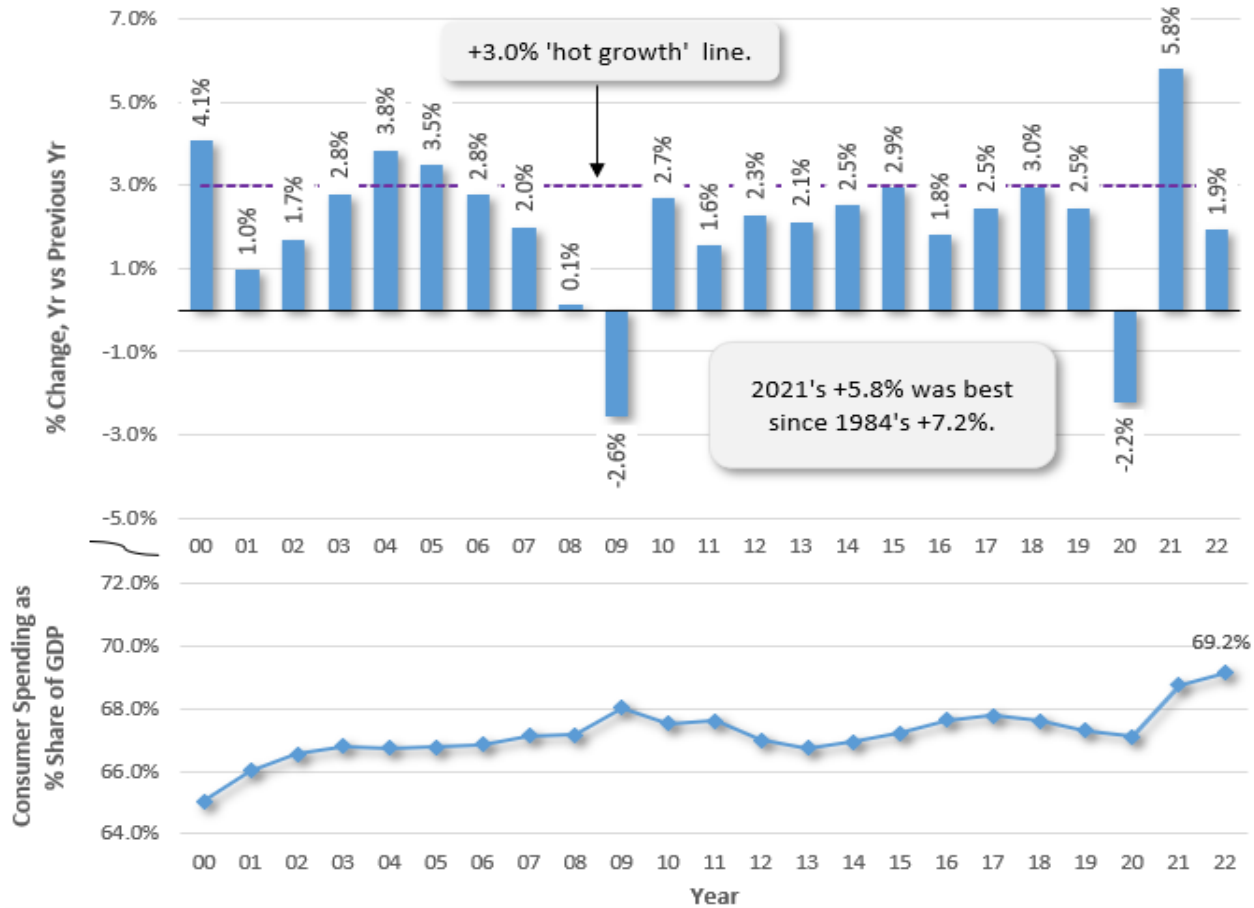
- Religious/Funeral +10%**
- Conference/Convention Center +92%**
- Hotel/Motel +54%**

Alex Carrick

Chief Economist,
ConstructConnect



U.S. 'Real' GDP Growth, Y/Y & Q/Q



U.S. 'Real' GDP Growth Q/Q Annualized:

2019	
Q3 =	+4.6%
Q4 =	+2.6%
2020	
Q1 =	-5.3%
Q2 =	-28.0%
Q3 =	+34.8%
Q4 =	+4.2%
2021	
Q1 =	+5.2%
Q2 =	+6.2%
Q3 =	+3.3%
Q4 =	+7.0%
2022	
Q1 =	-2.0%
Q2 =	-0.6%
Q3 =	+2.7%
Q4 =	+2.6%
2023	
Q1 =	+2.2%
Q2 =	+2.1%
Q3 =	+4.9%

Blue box numbers are Q/Q annualized (i.e., essentially multiplied by 4). ... The revised -2.2% decline in 2020 wasn't as severe as the -2.6% in 2009. In 1946, GDP was -11.6% (weaponry production down after WWII); in 1932, during the Great Depression, -12.9%.

'Real' is after adjustment for inflation.

THE HIDDEN MESSAGE IN THE U.S. GDP DATA

The BEA has now concluded that the U.S. declined by more in 2009 (-5.8% y/y) than in 2020 (-2.2%);

The answer to 2009 was mainly quantitative easing;

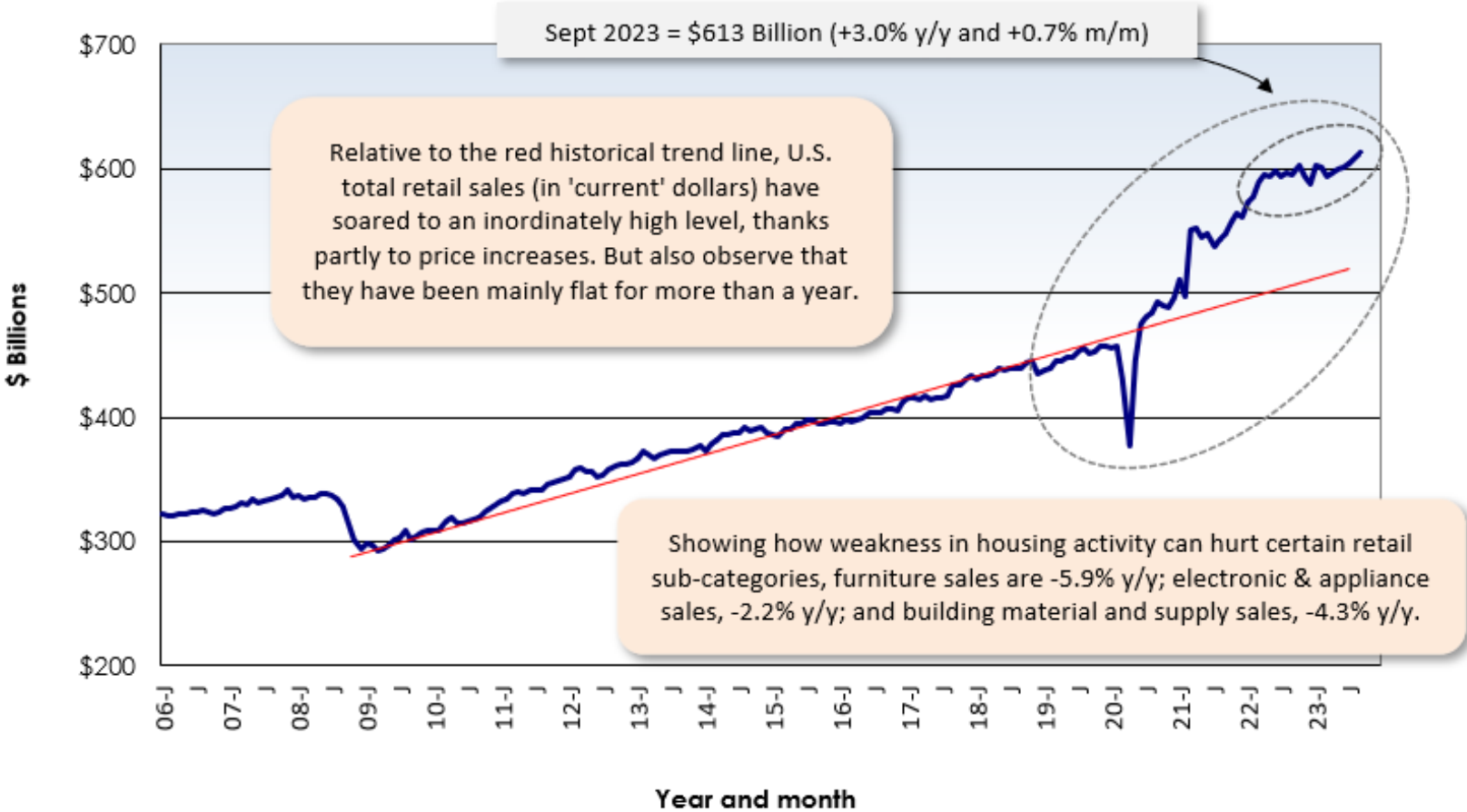
The answer to 2020 was mainly fiscal stimulus;

Economists will be forever debating which was more effective, with fewer negative consequences;

There's a legitimate question concerning what happens when the next big economic crisis hits: Given the Fed's obsession with inflation and Washington's enormous debt load, has the potential for quantitative easing or fiscal stimulus or both been exhausted? If so, what then?

By the way, the 23-year history (i.e., since 2000), through good times and bad, of U.S. 'real' (i.e., factoring out inflation) GDP growth has been +2.1%.

TOTAL RETAIL SALES IN U.S. MONTHLY



Adjusted for seasonal variation (SA), holiday and trading day differences, but not for price changes.

Latest data point is for Sept, 2023.

Data source: U.S. Census Bureau (Department of Commerce).

IMPEDIMENTS TO FUTURE ECONOMIC GROWTH

- Interest rates high for longer than expected;
- Strong pace of industrial mega project construction not likely sustainable;
- Suffering in the office building sector a threat to owners, small banks, & insurance cos.;
- ABI of AIA has fallen to 45.0 (below 'acceptable' benchmark of 50.0);
- Crane count from Rider Levett Bucknall is -10% versus six months ago.
- There's considerable and widespread labor unrest, plus some costly settlements;
- An aging population with looming skilled-worker retirements;
- Energy transition to net zero emissions will be extremely expensive;
- Fitch rating agency's downgrade of U.S. federal government debt;
- U.S. government stimulus packages are nearing their end dates;
- Deficit escape route of raising taxes not viable under present governing circumstances;
- Geopolitical problems will further divert Washington funding away from domestic growth;
- China not able to come to rescue of world trade; has its own problems.

COUNTERPOINTS ON THE PLUS SIDE

- U.S. real GDP grew by a torrid +4.9% in Q3 2023 (q/q annualized);
- The energy transition movement (towards renewables) guarantees huge capital spending;
- There's a wealth of opportunities in the new industries that are arising;
- Correspondingly, there are career paths to be found in previously never imagined fields;
- Upcoming large projects lists lean towards:
 - Manufacturing;
 - Transit and passenger terminals;
 - Sports stadiums;
 - Electric power (wind, solar, and renewed interest in nuclear);
 - Rail, plus an eventual go-ahead for a showcase hyperloop project; and
 - More bricks and mortar retail projects than one might expect;
- Tremendous and maybe unstoppable growth in the entertainment and travel sectors;
- Fossil fuel industry not yet down for the count (LNG facilities, chemical & fertilizer plants);
- Unlike economists, developers are born optimists.

- North of the border, in Canada, there's phenomenal population growth with an urgent need for housing well beyond historical 'start' rates.

U.S. OCT-DEC 2022 MEGA PROJECT 'STARTS'

Month	State	City/County	Type	Name	\$s (millions)	
October 2022	Massachusetts	Boston	Institutional	Massachusetts General Hospital / Clinical & Campus Services Bldg (1.1 million sf)	\$1,900	
October 2022	Georgia	Savannah	Industrial	Hyundai Motors Electric Vehicle & Battery Mnfng Plant (11 Buildings) (14.0 million sf)	\$5,500	
October 2022	Texas	Beaumont	Industrial	OCI Beaumont Blue Ammonia Facility	\$2,000	3 for \$9.4 billion
November 2022	Texas	Odessa	Industrial	1PointFive Direct Air Carbon Capture Plant, with Occidental Pete (1.5 million sf)	\$1,100	
November 2022	Nevada	Las Vegas	Engineering/Civil	The Gemini Solar Array, Quinbrook Infrastructure Partners/Rowan Green Data	\$1,000	2 for \$2.1 billion
December 2022	New York	Albany	Engineering/Civil	Champlain Hudson Power Express Project (underground cable, Canada to New York)	\$4,500	
December 2022	Tennessee	Stanton	Industrial	Blue Oval City Manufacturing Facility - Ford Motor Company (7.5 million sf)	\$5,600	
December 2022	Arizona	Phoenix	Industrial	Taiwan Semiconductor Manufacturing Company (TSMC) - Fab 2 (2.5 million sf)	\$8,000	
December 2022	Arizona	Buckeye	Industrial	KOREPlex Manufacturing Facility (batteries), KORE Power Inc (2.0 million sf)	\$1,300	4 for \$19.4 billion

Data source and table: ConstructConnect.

2022's Q4 Totals = 9 for \$30.9 billion

U.S. JAN-SEPT 2023 MEGA PROJECT 'STARTS'

Month	State	City/County	Type	Name	\$s (millions)	
January 2023	Indiana	Indianapolis	Institutional	New Indy Hospital Project - Indiana University Health (2.0 million sf)	\$1,600	
January 2023	Alabama	Bay Minette	Industrial	Novelis Corp Low-carbon Aluminum Recycling and Rolling Plant (2.5 million sf)	\$2,500	
January 2023	Texas	Port Arthur	Industrial	Sempra Energy - Liquefied Natural Gas Export Terminal - Phase 1 Trains 1 & 2	\$10,500	3 for \$14.6 billion
February 2023	New York	New York	Commercial	John F. Kennedy International Airport Terminal 6 Expansion (1.2 million sf)	\$2,600	
February 2023	California	Riverside	Engineering/Civil	Desert Quartzite Solar Project, First Solar Inc	\$1,000	2 for \$3.6 billion
March 2023	Ohio	Washington Court House	Industrial	Honda & LG Energy Solutions - Battery Plant Development (2.0 million sf)	\$3,500	
March 2023	Alaska	Prudhoe Bay	Engineering/Civil	Pikka North Slope Oil Project, Santos/Oil Search (Alaska) LLC	\$3,000	2 for \$6.5 billion
April 2023	Michigan	Sault Sainte Marie	Engineering/Civil	New Lock at the Soo, New Third Lock	\$1,300	
April 2023	Indiana	Kokomo	Industrial	Stellantis-Samsung SDI Battery Manufacturing Plant (3.3 million sf)	\$2,500	2 for \$3.8 billion
May 2023	Kansas	De Soto	Industrial	Panasonic Energy Co. Electric Vehicle Battery Plant (4.8 million sf)	\$4,000	
May 2023	Arizona	El Mirage	Industrial	LogistiCenter at Copperwing, Dermody Properties (5.0 million sf)	\$1,500	2 for \$5.5 billion

Month	State	City/County	Type	Name	\$s (millions)	
June 2023	New York	Orchard Park	Commercial	New Buffalo Bills Stadium (1.4 million sf), Erie County (1.4 million sf)	\$1,350	
June 2023	Virginia	Sterling	Commercial	CloudHQ LC4 Data Center (1.4 million sf)	\$1,000	
June 2023	Florida	Kissimmee	Residential	Everest Place Mixed-Use Development Phase 1 (Res, Hotel, etc) (3.0 million sf)	\$1,000	
June 2023	Ohio	Jersey Township	Industrial	Intel Silicon Heartland Chip Factory, Phase 1 (2.5 million sf)	\$1,500	
June 2023	Indiana	Indianapolis	Commercial	Eleven Park (Home of Indy Eleven Soccer Team) (1.2 million sf)	\$1,000	
June 2023	Alabama	Decatur	Industrial	First Solar Inc Photovoltaic (PV) Solar Module Mnfg Facility (2.4 million sf)	\$1,100	
June 2023	Texas	Bridge City	Engineering/Civil	Orange County Advanced Solar Power Station, Entergy Texas Inc.	\$1,800	
June 2023	Wyoming	Rawlins	Engineering/Civil	TransWest Express Transmission Project (Electric Power), Anschutz Corp	\$3,000	
June 2023	Hawaii	Honolulu	Institutional	Dry Dock 3 Replacement, U.S. Dept of the Navy - NAVFAC Pacific	\$2,800	9 for \$14.6 billion
July 2023	New York	New York	Institutional	Manhattan Detention Site - 125 White Street Demolition & New Build (1.3 million sf)	\$1,600	
July 2023	New York	New York	Residential	570 Washington Street Towers (2.5 million sf)	\$1,000	
July 2023	Florida	Fort Lauderdale	Commercial	Bahia Mar Resort & Marina Redevelopment (2.0 million sf)	\$1,000	
July 2023	Michigan	Holland	Industrial	LG Energy Solutions / MI2 Holland Expansion (1.3 million sf)	\$1,500	
July 2023	Texas	Port Isabel	Industrial	Rio Grande LNG	\$9,000	
July 2023	Texas	Fort Stockton	Engineering/Civil	Matterhorn Express Natural Gas Pipeline, Upton to Fort Bend, Devon Energy Corp	\$3,000	
July 2023	Arizona	Mesa	Commercial	Google Data Center, Project Red Hawk/Mesa	\$1,000	7 for \$18.1 billion
August 2023	North Carolina	Siler City	Industrial	John Palmour Manufacturing Center for Silicon Carbide, Wolfspeed (2.0 million sf)	\$2,500	
August 2023	Georgia	Fayetteville	Commercial	Project Excalibur Data Center Campus (6.0 million sf)	\$2,500	2 for \$5.0 billion
September 2023	Alabama	Tallahassee	Institutional	Specialized Men's Prison Facility, CoreCivic (1.4 million sf)	\$1,000	
September 2023	Louisiana	New Iberia	Industrial	First Solar Module Manufacturing Facility (2.0 million sf)	\$1,100	
September 2023	New Mexico	Tularosa	Engineering/Civil	SunZia Southwest Power Transmission / White Sands, Pattern Energy Group	\$2,000	3 for \$4.1 billion

Data source and table: ConstructConnect.

2023's YTD = 32 for \$75.8 billion

CANADA OCT 2022 TO SEPT 2023 MEGA PROJECT 'STARTS'

Month	Province	City	Type	Name	\$s (millions)	
October 2022	Alberta	Edmonton	Industrial	Air Products New Hydrogen Complex, Air Products Canada	\$1,300	1 for \$1.3 billion
November 2022	Ontario	Windsor	Civil/Engineering	New Battery Plant, Stellantis & LG Energy Solution (4.5 million sf)	\$5,000	1 for \$5.0 billion
December 2022	Ontario	Ottawa	Commercial	Parliament Welcome Centre (PWC) - Phase 2, Public Service & Procurement	\$3,000	1 for \$3.0 billion
February 2023	Quebec	Vaudreuil-Dorion	Institutional	D/B Hôpital Vaudreuil-Soulanges Hospital Construction (1.4 million sf)	\$1,652	1 for \$1.7 billion
April 2023	Quebec	Senneville	Civil/Engineering	Pont de l'Île-aux-Tourtes Bridge Reconstruction - Design, Build, Finance Project	\$1,965	1 for \$2.0 billion
July 2023	Ontario	Niagara Falls	Intitutional	Design / Build South Niagara Hospital Project, Niagara Health System (1.3 million sf)	\$3,600	1 for \$3.6 billion
September 2023	British Columbia	Squamish	Civil/Engineering	Eagle Mountain Natural Gas Pipeline (EGP), Serving Woodfibre LNG Plant	\$6,800	
September 2023	British Columbia	Vancouver	Institutional	New Surrey Hospital and Cancer Centre Project,	\$2,880	2 for \$9.7 billion

U.S. TYPE-OF-STRUCTURE CONSTRUCTION 'STARTS' FORECASTS (\$ BILLIONS USD) - FALL 2023

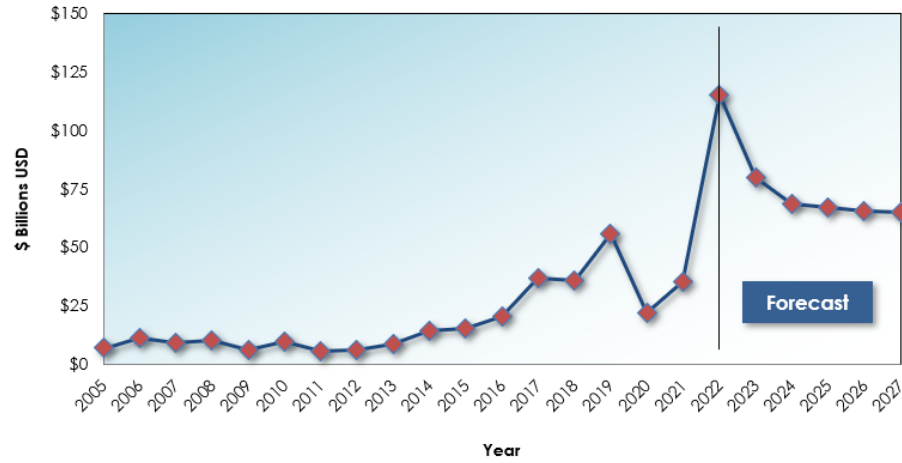
Main Categories:	Actuals		Forecasts				
	2021	2022	2023	2024	2025	2026	2027
Residential	362.5	373.3	291.4	304.3	349.9	409.3	457.3
(Yr/yr % change)	20.3%	3.0%	-21.9%	4.4%	15.0%	17.0%	11.7%
Commercial	107.8	121.8	119.1	125.9	137.2	147.9	156.2
(Yr/yr % change)	5.1%	13.0%	-2.2%	5.8%	9.0%	7.7%	5.6%
Industrial (Manufacturing)	35.1	115.1	80.0	68.6	67.1	65.4	64.6
(Yr/yr % change)	61.4%	228.1%	-30.5%	-14.2%	-2.2%	-2.6%	-1.1%
Institutional	113.8	141.9	153.4	150.6	158.3	166.3	173.3
(Yr/yr % change)	-4.6%	24.7%	8.1%	-1.9%	5.1%	5.1%	4.2%
TOTAL NON-RES BLDG	263.0	386.8	359.4	352.4	370.4	387.7	402.6
(Yr/yr % change)	5.5%	47.1%	-7.1%	-1.9%	5.1%	4.7%	3.8%
Engineering	156.5	201.6	233.3	252.2	268.8	283.5	295.2
(Yr/yr % change)	1.1%	28.8%	15.8%	8.1%	6.6%	5.4%	4.1%
GRAND TOTAL	782.0	961.6	884.1	909.0	989.1	1,080.5	1,155.1
(Yr/yr % change)	10.8%	23.0%	-8.1%	2.8%	8.8%	9.2%	6.9%

Some Important Sub-categories:

Shopping/Retail	12.9	15.4	14.1	17.2	18.9	21.0	22.8
(Yr/yr % change)	4.9%	19.4%	-8.5%	22.4%	9.8%	11.3%	8.3%
Private Offices	21.0	24.3	22.8	22.4	24.8	28.5	31.4
(Yr/yr % change)	-19.1%	15.9%	-6.0%	-1.7%	10.5%	15.2%	10.1%
Warehouses	28.2	29.8	22.4	23.4	26.4	28.1	29.4
(Yr/yr % change)	7.7%	5.5%	-24.7%	4.6%	12.6%	6.6%	4.5%
Hospitals/Clinics	18.7	25.8	22.0	24.2	26.3	28.3	29.6
(Yr/yr % change)	40.3%	38.0%	-15.0%	10.0%	8.6%	7.7%	4.8%
Educational Facilities	59.9	74.5	86.0	81.9	84.7	87.7	90.7
(Yr/yr % change)	-11.3%	24.4%	15.4%	-4.7%	3.4%	3.6%	3.5%
Roads	67.4	84.5	95.3	99.3	104.8	110.5	115.3
(Yr/yr % change)	5.9%	25.4%	12.8%	4.2%	5.5%	5.4%	4.4%
Water & Sewage Treatment	33.9	43.3	48.9	51.4	54.1	56.8	59.3
(Yr/yr % change)	8.4%	27.8%	13.0%	5.2%	5.1%	5.1%	4.3%
Misc Civil (Power, etc.)	23.5	29.4	44.5	53.1	57.9	61.0	63.2
(Yr/yr % change)	3.3%	25.1%	51.6%	19.2%	9.0%	5.4%	3.6%

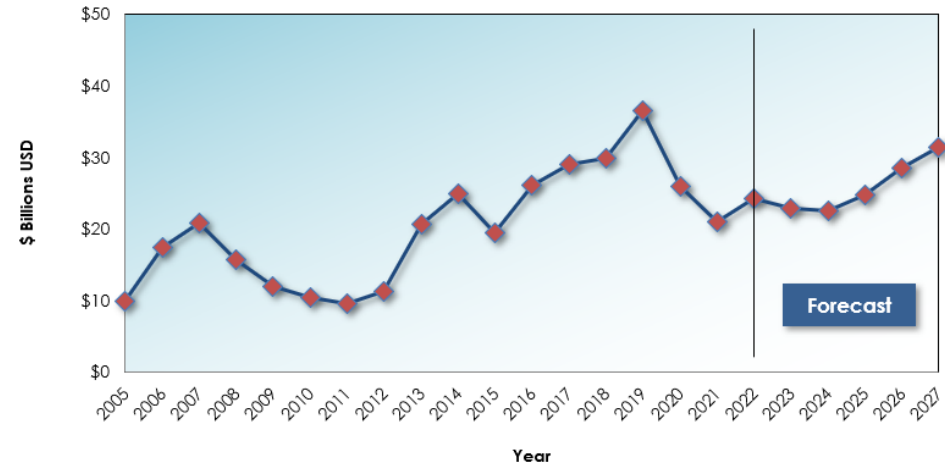
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Chart: ConstructConnect.

U.S. Industrial/Manufacturing Construction Starts



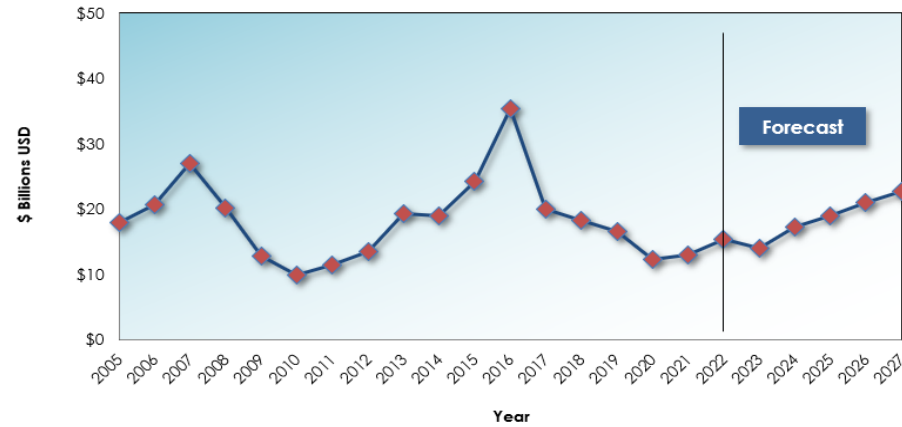
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Private Office Building Construction Starts



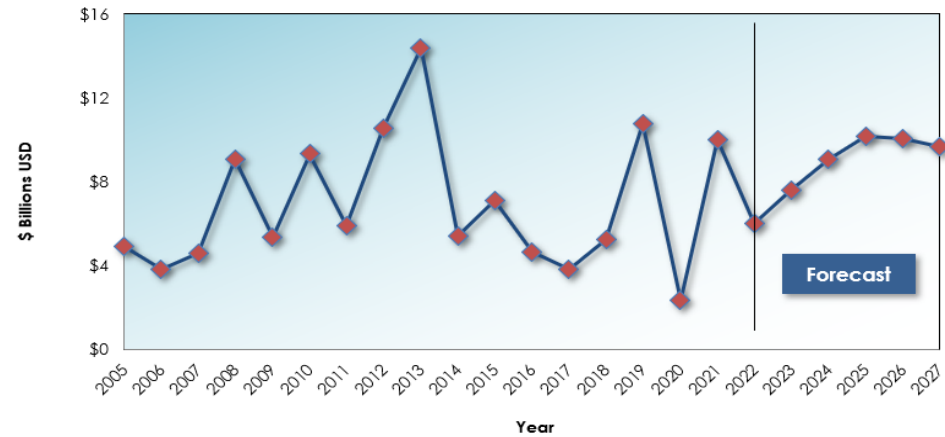
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Retail/Shopping Construction Starts



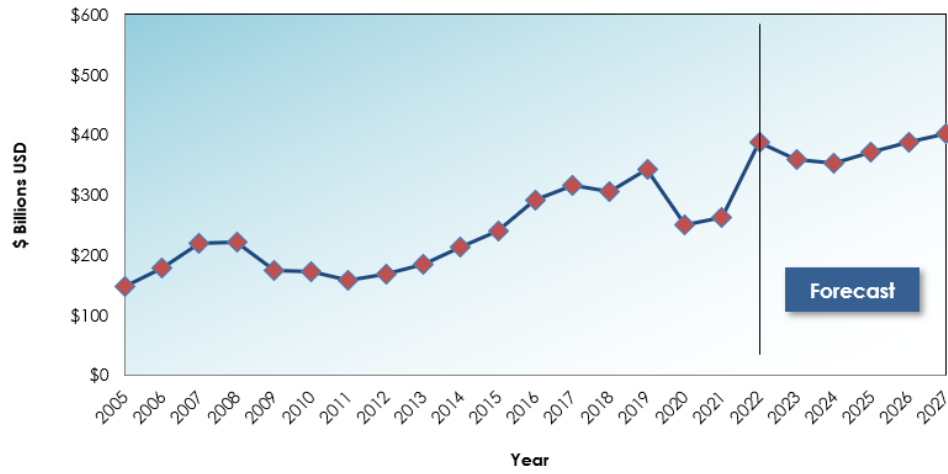
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Transportation Terminal Construction Starts



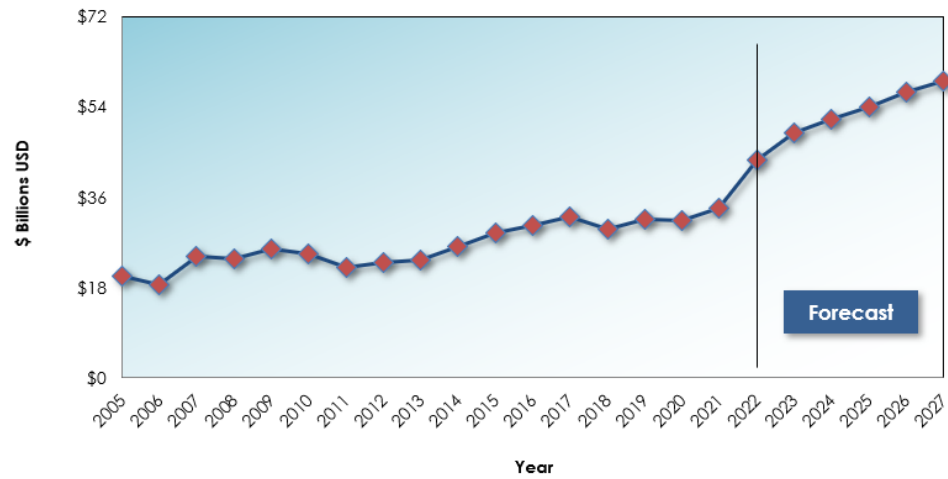
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Nonresidential Building Construction Starts



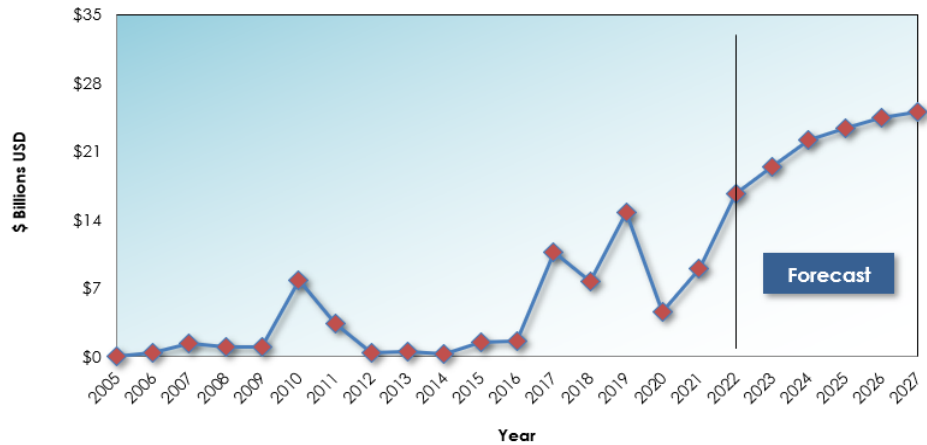
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Water & Sewage Treatment Construction Starts



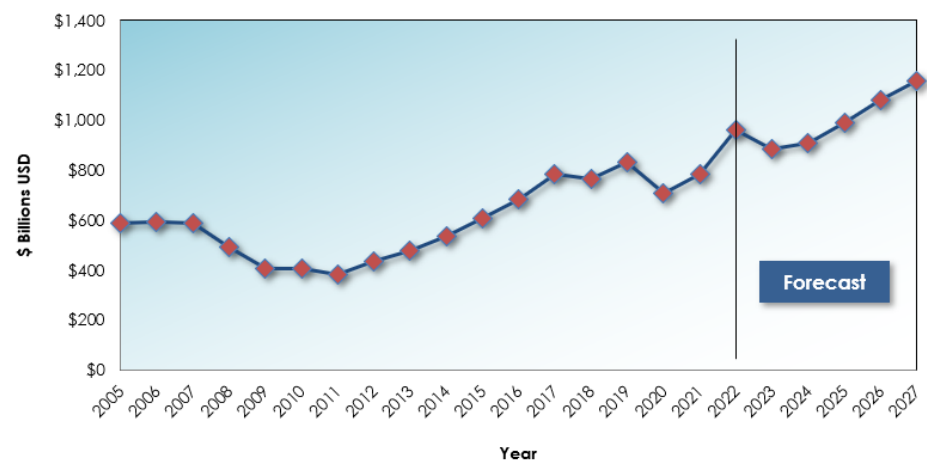
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Electric Power Construction Starts



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

U.S. Grand Total Construction Starts



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect
Chart: ConstructConnect

Michael Guckes

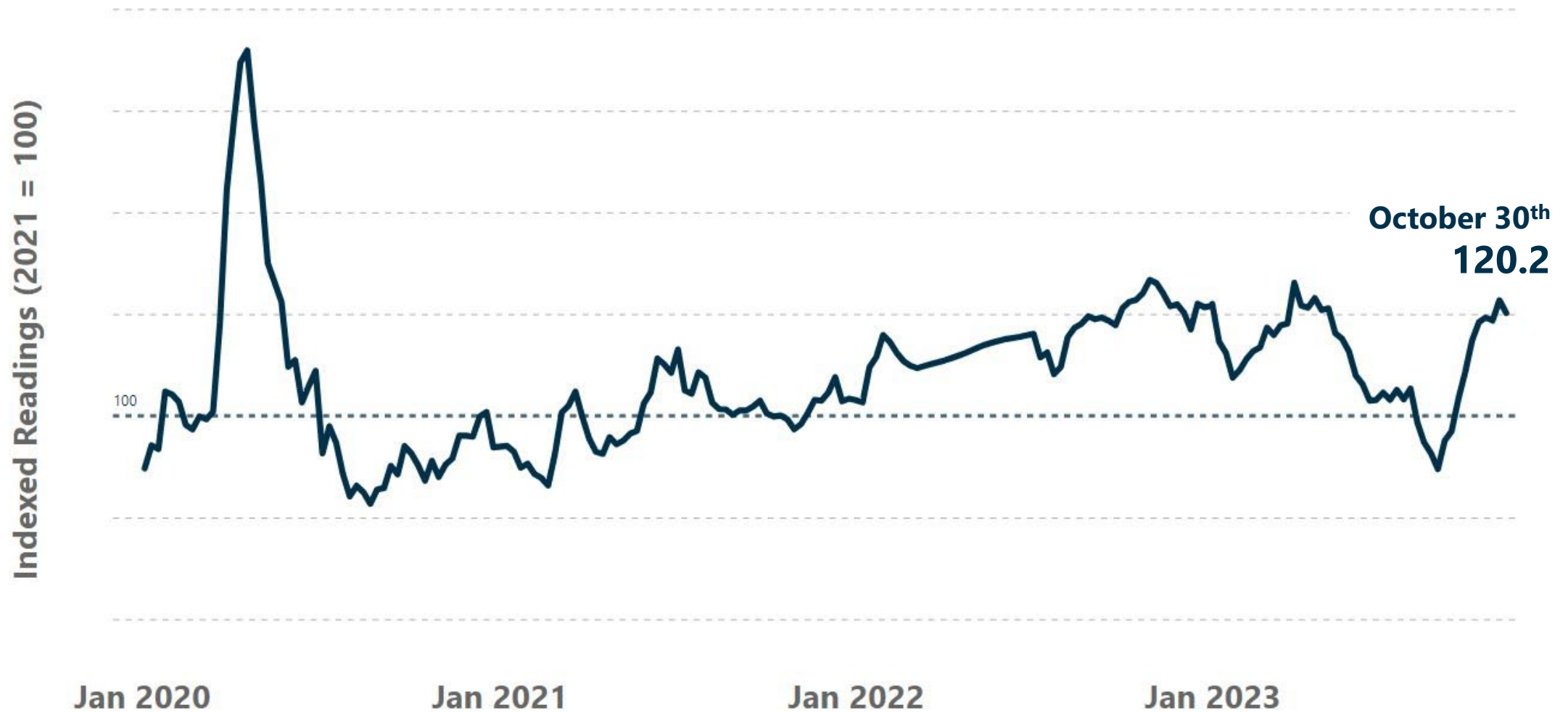
Senior Economist,
ConstructConnect



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Project Stress Index Composite

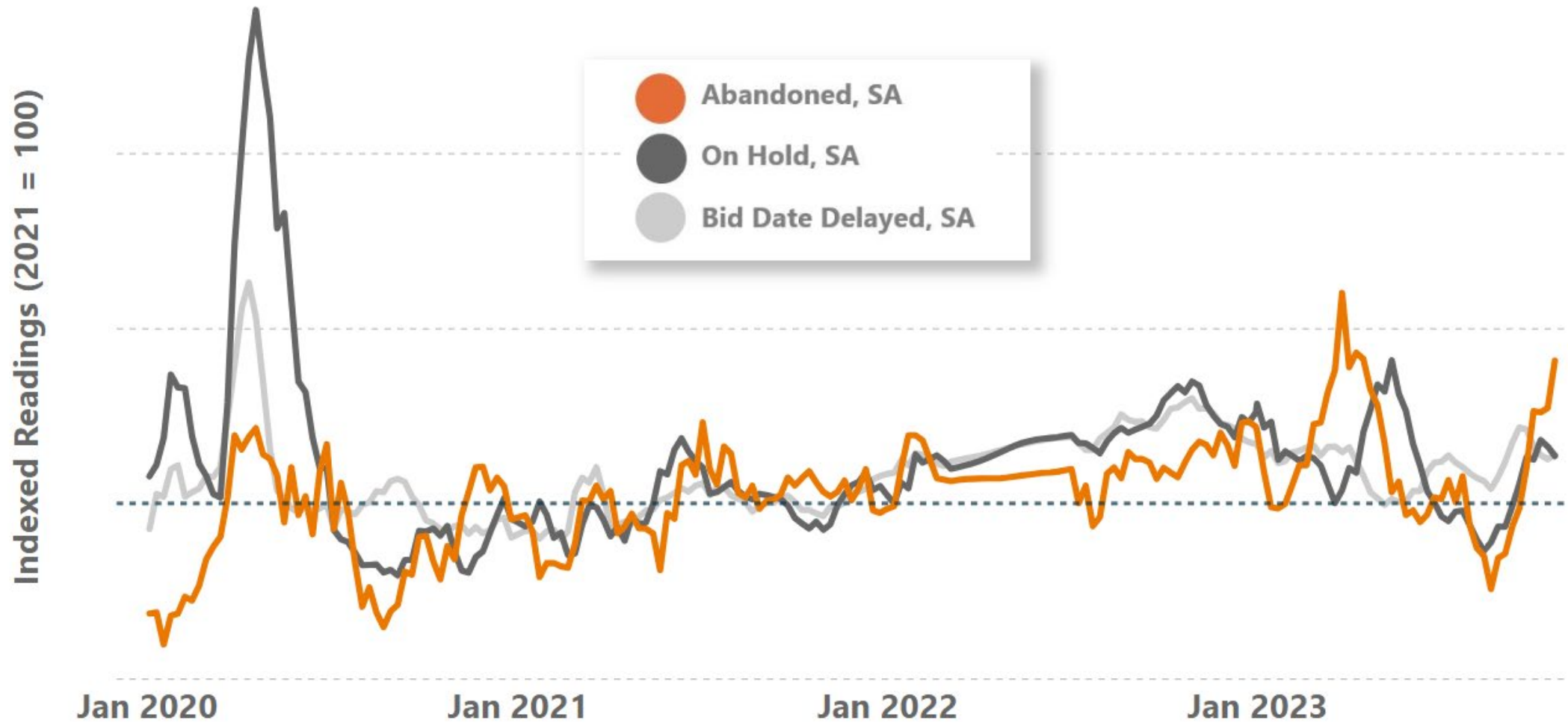
A seasonally adjusted, equal weight measure of delayed, on hold and abandoned projects



Source: ConstructConnect

Project Stress Index Composite Components

Abandoned project levels have led the Stress Index higher in October, (values seasonally adjusted)

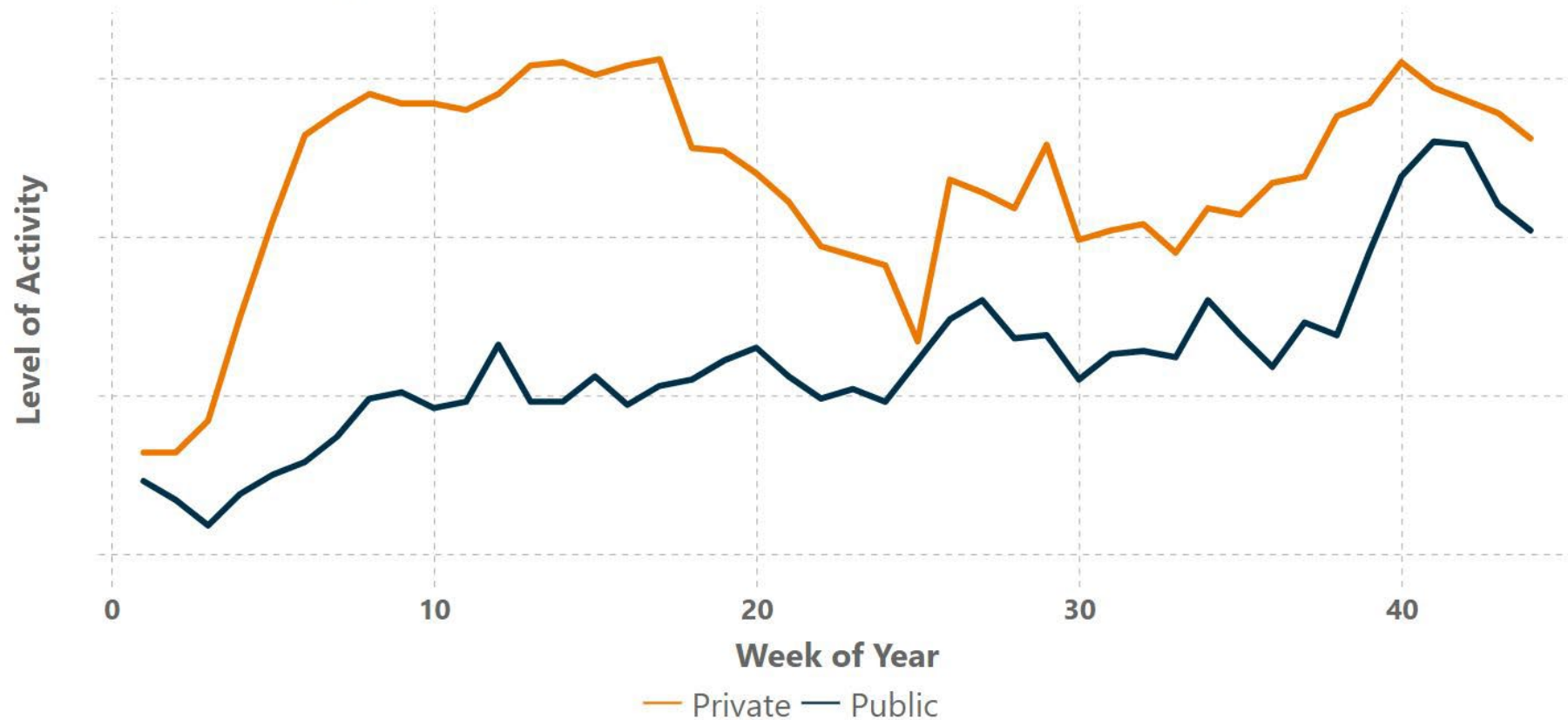


Source: ConstructConnect

Abandoned Public Sector Projects At All-Time High

Project Stress Indicator: Abandoned, by Sector

Rolling 30-day level of projects, YTD 2023

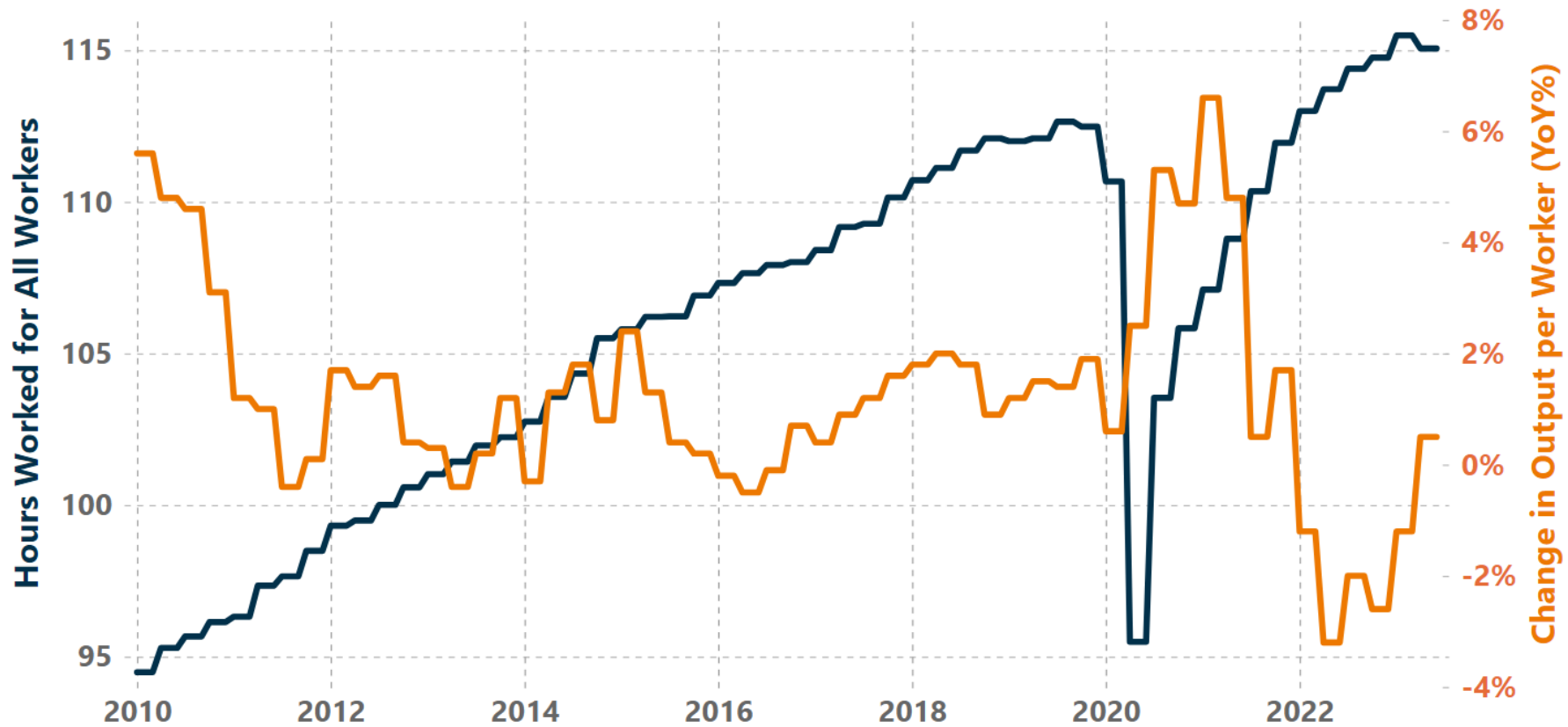


Source: ConstructConnect

Labor Productivity May Be a Greater Long-Run Problem than Availability

U.S. Output Productivity Gains Largely Illusive Since Early 2022

Declining productivity largely offset rise in total hours worked (hours indexed 2012=100, SA)

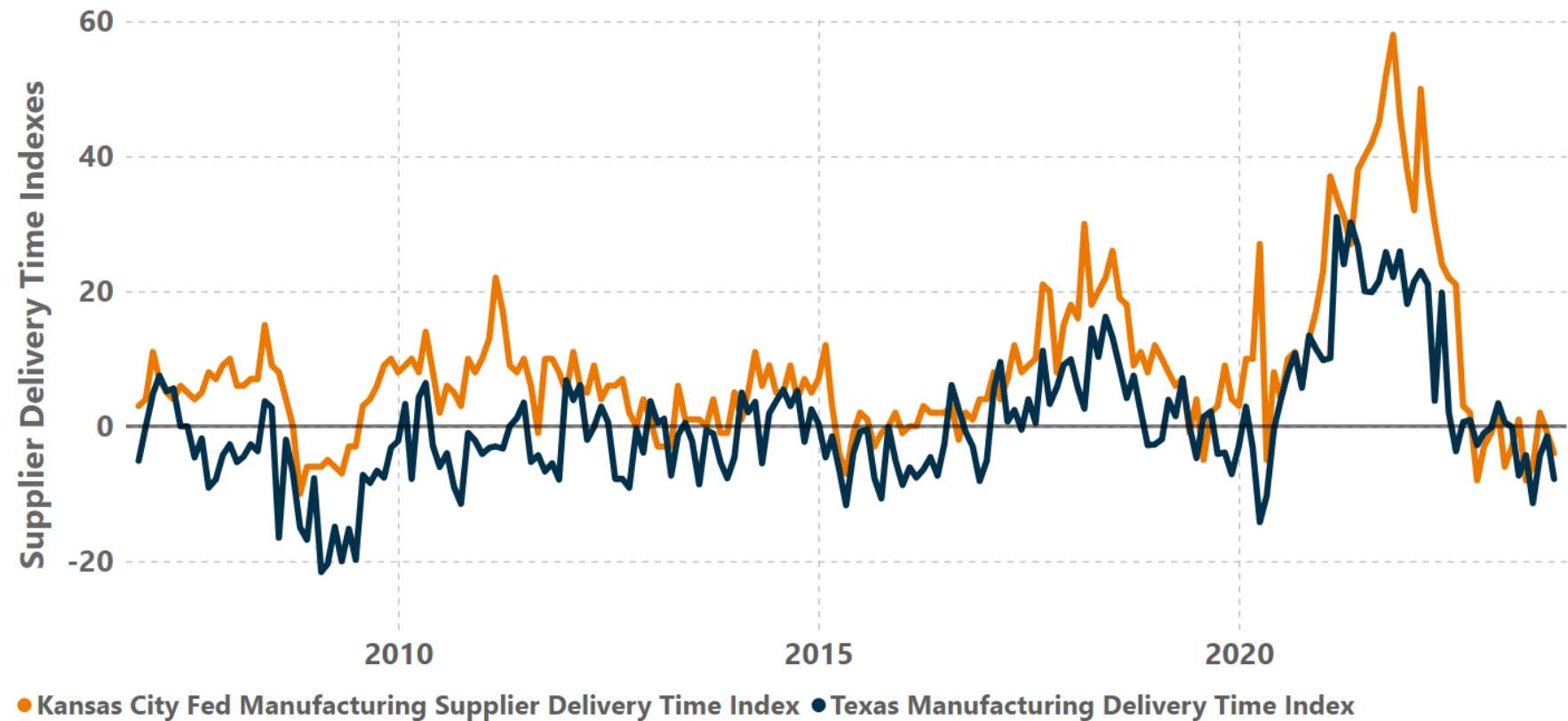


Source: Bureau of Labor Statistics

Improving Supply Chains Call For a New Post-COVID Strategy

U.S. Supplier Delivery Measures

2023 readings continue to signal slack in supply chains

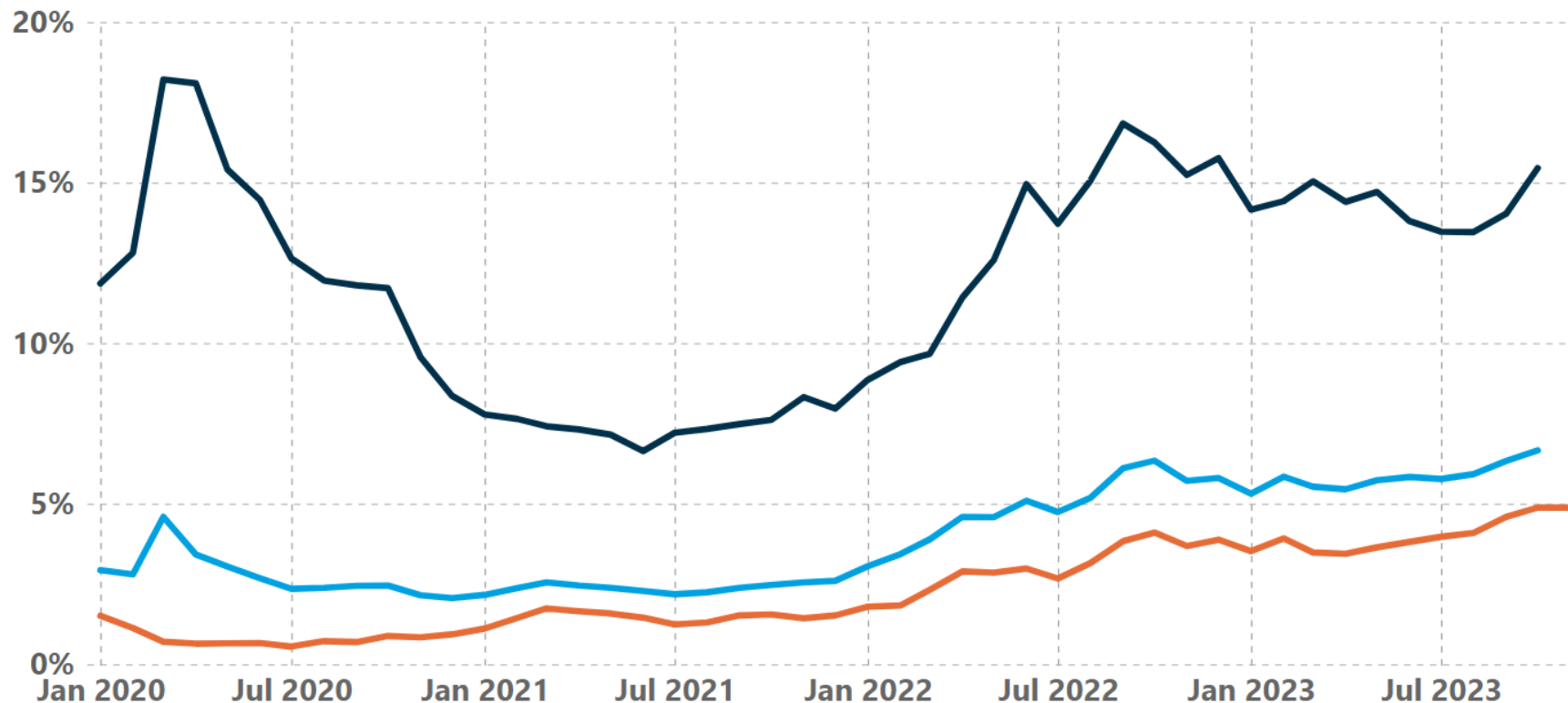


Sources: Kansas City Federal Reserve, Dallas Federal Reserve

Fiscal Intransigence Is Becoming the Private Sector's Burden

By Design, Companies Cannot Borrow at a Better Rate Than The Government

Poor public fiscal governance will penalize all private companies with higher borrowing rates.



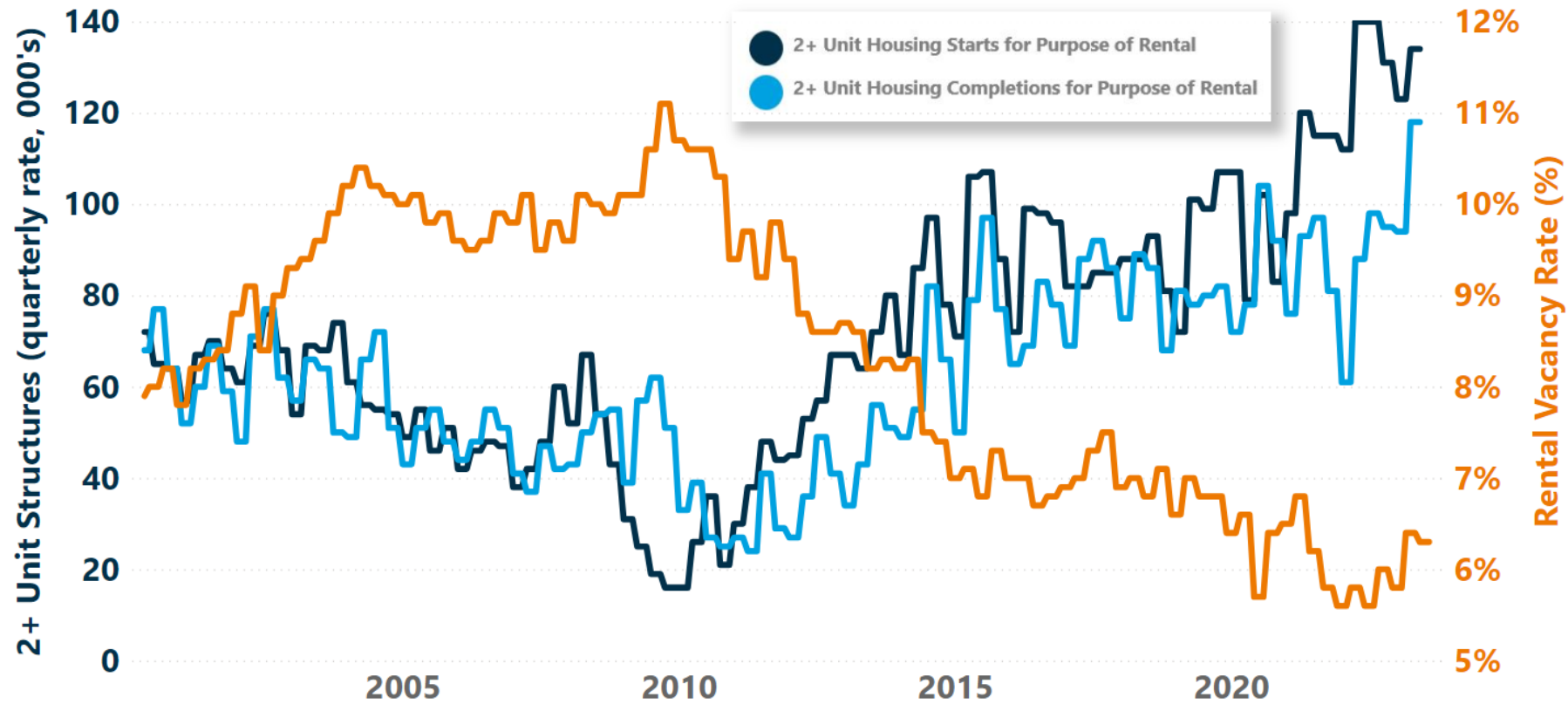
● US Corporate BBB Effective Yield ● US High Yield CCC Effective Yield ● 10 Year Treasury Rate

Sources: Interest Rates, Bank of America Merrill Lynch; Fed Funds Rate, Federal Reserve Bank

Are We Headed Into An Oversupply Problem?

Rental Construction Activity Is Well Above Long-Run Projected Demand

Starts and completions rates soar as vacancy rates rebound from historic lows.



Source -- U.S. Census Bureau

Construction Outlook Highlights

- Higher for longer interest rates could create a significant repricing risk for owners needing to refinance existing structures or finance new work.
- Finding workers is hard, making them productive could be harder still.
- What is your revenue diversification strategy?
- In general, supply chain conditions and tepid material prices favor a return to JIT-like inventory management. What would it look like to do with this 2+ suppliers?

| Searching for the Signal Through the Noise

- If you are only going to watch a few things:
 - Employment Reports
 - Credit Metrics
 - Federal & Private
 - Project Stress Index

Link in Webcast Chat

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First name Last name

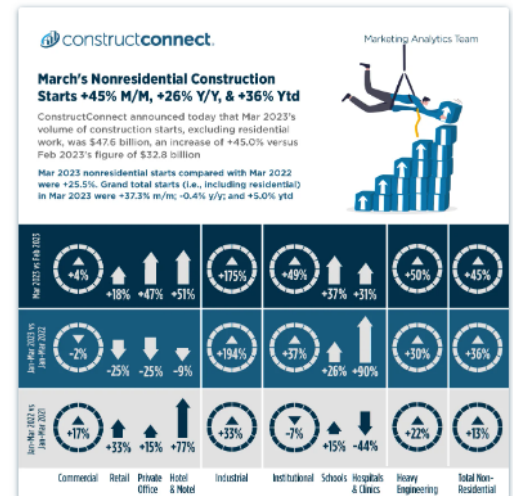
Zip Code*

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- Construction Starts Forecast Report (quarterly)
- U.S. Put-In-Place Construction Forecast Report (biannual)
- Architect's Journey to Specification (annual)

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The Buildings Show

November 29 - December 1 Toronto, ON
Booth #1513

AI, is the hype real?

November 29 2:30pm – 3:30pm
Doug Dockery, ConstructConnect

Data-Driven Insights in a Fluid Construction Market

November 29 1pm - 2pm
Michael Guckes, ConstructConnect

US and Canadian Economic & Construction Outlook

November 29 2:30pm – 4pm
Alex Carrick, ConstructConnect

World of Concrete

January 23 - 25 | Las Vegas, NV
Booth #N1555

AGC Annual Convention

March 19 - 22 | Chicago, IL

BUILD24

March 25 - 28 | Orlando, FL
Booth #704

AIA'24

June 6 - 8 | Washington, DC
Booth #2629

**CONSTRUCTION
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A photograph of four construction workers in safety gear (hard hats and high-visibility vests) walking away from the camera on a construction site. In the background, there is a large crane and the skeletal structure of a building under construction. The scene is bathed in a blue light, with lens flare effects in the upper left. In the bottom right corner, there is a graphic of several blue arrows pointing upwards and to the right, suggesting growth or progress.

Questions & Answers

Thank you



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